EXHIBIT 17

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE
C.A. No. 22-1146 (MN)

ARM LTD.,

Plaintiff,

- against -

QUALCOMM INC., QUALCOMM TECHNOLOGIES, INC., AND NUVIA, INC.,

Defendants.

July 2, 2024
9:07 a.m.

CONFIDENTIAL
ATTORNEYS' EYES ONLY

VIDEOTAPED DEPOSITION of WILLIAM TODD SCHOETTELKOTTE, held at the offices of MORRISON & FOERSTER LLP, located at 250 West 55th Street, New York, New York 10019, before Anthony Giarro, a Registered Professional Reporter, a Certified Realtime Reporter and a Notary Public of the State of New York.

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THE VIDEOGRAPHER: Good morning. We are going on the record at 9:07 a.m. on July 2nd, 2024. Please note that the microphones are sensitive and may pick up whispering and private conversations. Please mute your phones at this time and place them away from the microphones as they can interfere with the audio. Audio and video recording will continue to take place unless all parties agree to go off the record.

This is Media Unit 1 of the video-recorded deposition of William Todd Schoettelkotte in the matter of ARM Ltd., plaintiff, versus Qualcomm Inc., Qualcomm Technologies, Inc. and Nuvia, Inc., defendants, C.A. No. 22-1146 (MN), filed in The United States District Court for the District of Delaware.

The location of this deposition is Morrison & Foerster LLP, 250 West 55th Street, York, New

York.

My name is Phil Glauberson representing Veritext. And I am the videographer. The court reporter is Anthony Giarro from Veritext.

I am not authorized to administer an oath, I am not related to any party in this action, nor am I financially interested in the outcome.

All appearances will be noted on the stenographic record.

Will the court reporter please swear in the witness.

W I L L I A M T O D D S C H O E T T E L K O T T E, after having first been duly sworn by a Notary Public of the State of New York, was examined and testified as follows:

EXAMINATION BY MR. ISAACSON:

Q Mr. Schoettelkotte, I'm Bill Isaacson. I'll be asking you questions.

Today for convenience, we've

paragraph 14, in the second-to-last line, you referred to harm, including future harm. You see that?

A Yes.

Q And you also referred to harm, including future harm, in paragraph 15 in the first line, continuing on to the second line. You see that?

A I do.

[redacted]

15 there was [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Q In paragraph 3, you say, "I've also been asked to assess and provide testimony regarding the damages associated with ARM's claim for trademark infringement."

What trademarks are you referring to there?

A I believe it's the ARM trademark.

Q And then at paragraph 141, you say in the second sentence, "I am informed and understand that ARM is not aware of any trademark infringements by defendants to date."

And you say, "I may be asked to opine on potential damages associated with trademark infringement, if any such infringement is alleged to have occurred before trial of this matter."

So am I correct that as of this date, you do not have any opinions that ARM has incurred any damages for violation of trademarks?

A I believe that is correct.

Q And when you say you were informed and understand that ARM's not aware of any trademark infringement by defendants to date, who informed you of that?

A I reviewed the second supplemental objections and responses to

Qualcomm's first set of interrogatories.

Q And you're not aware of any use of Qualcomm's use of ARM marks today; is that right?

A Well --

MR. MOONEY: Objection, form.

A Again, I want to be careful that I don't run into any legal issue here. I am not aware of that use as -- as a general statement. Whether or not there is anything going on in the background, I might not be aware of or whether something constitutes trademark infringement or alleged trademark infringement. I don't have an opinion on that. But as a -- as a non-legal person, I'm not aware of anything.

Q And I understand from your CV that you have an undergraduate degree, a bachelor's in management; is that right?

A Business management, yes.

Q And then you got a master's

in accounting; is that right?

A That's correct.

Q Did you ever practice as a CPA?

A I did, yes.

Q What period of time did you do that?

A Roughly 1995 to '97.

Q Your CV also states that your clients have included numerous Fortune 500 companies and a wide variety of industries including semiconductors.

Have you ever provided a damages calculation for a semiconductor before?

A I have, yes.

Q If you want to consult the schedule of your report with your prior testimony, feel free to do that.

But would you tell me the instances where you provided a damages calculation for a semiconductor company before?

A Samsung Electronics, Demaray

v. Samsung.

Q Which page are you on now?

A Page 1 of 5.

Q Demaray versus Samsung?

A That's correct.

Q You could keep going through the list.

A Power Integrations versus Fairchild Semiconductor.

Q Which page are you on?

A Page 5.

Q Do you recall any others? This was for your last four years. Do you recall any others?

A Yeah. I'm forgetting the name of one that was, I guess, more recent. I'll have to see if I can recall it throughout the course of the deposition. Those are the ones that I recall.

Q And the Power Integrations company, you estimated damages there.

What was the general nature of the claim for which you were

estimating damages?
A I believe it was a patent infringement matter.
Q And with respect to the Demaray versus Samsung, what was the general nature of that case for which you were estimating damages?
A It was a patent infringement matter.
Q And in both of those cases, were you estimating damages for the plaintiff?
A I don't believe so, no.
Q So let me break it down then.
So for the Demaray versus Samsung case, were you estimating damages for the plaintiff?
MR. MOONEY: Objection, form.
A No.
Q And for Power Integrations, were you estimating damages for the plaintiff?

A No.
MR. MOONEY: So the record is clear, who was he retained by or whose damages was he allegedly assessing?
MR. ISAACSON: I was asking if he was estimating damages for the plaintiff. I see what you're saying. Fair point.
MR. MOONEY: It may be clear to everybody else.
MR. ISAACSON: No. I think you are correct.
Q So for Power Integrations, were you estimating damages on behalf of the plaintiff, working for the plaintiff?
A No.
Q And the same question then in Demaray.
Were you estimating damages working for the plaintiff?
A No.
Q How often in your career have you estimated damages for alleged

breach of a license agreement on behalf of the party who was claiming damages?
A I would say several, many. I don't recall. It's a very common form of -- common form of legal action.
Q So by virtue of the fact that you've been deposed over 100 times, I assume you've been retained as an expert over 100 times. Is it hundreds of times?
A I would say it's over 100 times. Whether it's 200 or 300 times, I don't know. I've been doing this for almost 30 years.
Q So when you say you've estimated damages for alleged breach of a license agreement on behalf of a plaintiff many times, I'm trying to understand what range that would be, given how often you've been retained as an expert.
A Well, I guess I would -- as I'm listening to your question now, you used the word license agreement. I would

say when I think of breach of contract, I think a breach of contract for all types of agreements.
Q I'll say breach of a contract.
A So I've been involved in breach of contract agreements as part of numerous lawsuits. I can't tell you how many as I sit here.
Q Would it be dozens?
A I would say certainly, it could be dozens. I don't know. It's not something I've committed to memory. But it's a relatively -- well, it's not an uncommon claim for there to be a breach of contract. In that breach of contract, we are looking to assess what the harm to the plaintiff is based upon that breach.
Q And within those cases, have you sometimes estimated damages for alleged breach of a license agreement on behalf of the party claiming damages?
A I believe that to be true as well, yes.

Q And can you point me to any standard manuals or publications that set forth methods you've relied on in the past for estimating damages for the alleged breach of a contract?

A Well, I would say that there are various treatises, damages handbooks, damages text. I haven't committed them all to memory. We referred to them from time to time. I generally am aware of if there is a breach of contract, there can be a number of different forms of damages that may be considered.

And factually, each case is different, the circumstances are different, the parties are different, the agreements are different. And we are looking to identify the measure of damages and the construct of damages, which is most similarly situated to not only the harm, but the facts of that case.

Q Are there any treatises, damages handbooks or damages text that

you could point me to that do set forth methods that you've relied on in the past for estimating damages for breach the contract?

A Yes. Again, there's an AICPA damages handbook that we've used in the past. I think there's several kind of general damages type handbooks. Again, I haven't committed the titles to memory. But, yes, there's numerous of them.

Q There's the AICPA damages handbook.

Without regards to the specific titles, without remembering specific titles, is there any other way to refer me to materials that you've relied on, organizations that published it, anything else?

A Not as I sit here. Like I said, there's various manuals or treatises that set forth those measures of damages that one can look at. So, yes, they're out there. I haven't

committed them to memory in a way that I could provide clarity here.

Q And the only one you can remember now right now is the AICPA publication?

A Maybe stated a little bit differently, I can't remember the specific titles. If you want me to check at a break, I can certainly do that. But, again, it's not something that I've committed to memory.

Q I think that would be great if you checked it at a break.

Without having to name the specific titles, if there's ways of pointing me to the publication, that would be useful.

A Sure.

Q And are there common methods you have used in the past to estimate damages for alleged breach of a license agreement?

A So ultimately, if you are looking at issues of breaching a license

agreement, you could look at things such as potential lost profits. You could look at a potential for a royalty. When you talk about breaches more generally, you're looking at things such as benefit of the bargain, or sometimes people go the other way. And they want to talk about rescission. Sometimes people want to talk about restitution damages, things like that, are whenever there's a breach of contract, we look at certain of those potential paths forward.

But if you're talking about license agreements for technology or patents, oftentimes, you're looking at, you know, what are the potential harms of that breach now from a monetary standpoint. To the extent there are lost profits or royalty, as I said, you might look there. If there's a breach, such that there would be some price erosion measure of damages, that might be something else you would look at; you know, depending on whether there's now

some confusion in the marketplace, you might -- you might see some harm to reputation if the party who's offering the product to the market doesn't adhere to certain standards or obligations under the license agreement. So, again, it's all fact-specific.

Q And everything you just listed are methods that you have used in the past to estimate damages for either breach of a license agreement or breach of contract; is that correct?

A Well, I either used them or considered them. I don't think that was your original question. Your original question was what types. So those are the things that I'm aware of. Again, every fact pattern is distinct.

So I would say that those are some of the considerations that I would have. But those considerations would vary based upon the fact patterns in the case.

Q So my original question was

about methods that you used. I'm not sure if you've used all of these methods.

So have you --

A I've used all of those methods.

Q For estimating damages in a breach of contract or breach of license agreement?

A I have used them all in some form. I'm not sure whether it's in a breach of a license agreement or not. But those are all forms of damages that I have used. Again, the facts of each case are different. I can't tell you as I sit here. I've used all those in the specific reference that you've set forth.

Q So you've used -- if I could just break these down briefly -- in the past in estimating damages, the method of estimating a reasonable royalty; is that right?

A I have.

Q You have used in the past in estimating damages, lost profits?

A That's correct.

Q You have used in estimating damages in the past, estimating the benefit of the bargain?

A That is correct.

Q In estimating damages in the past, you have measured damages called restitution?

A That's correct.

Q And by restitution, do you understand that is estimating the wrongful profits of the breaching party?

A In general, yes, under kind of a fraud type claim, breach of contract, again, I'm not a legal person. But there's almost -- I don't believe that a breach of contract, just in general, allows for benefit of the bargain, unless there's some specific fraudulent act or something else. Again, that's mirror of a legal interpretation. But that's my understanding.

Q But regardless of the law, you've used that method to estimate

damages?

A Well, I think it's important, the context, so that we don't get crosswinds. But, yes, I've used that method, not only in those type cases, but also trademark cases or trade secret cases.

Q And you've also in the past estimated damages using price erosion?

A That's correct.

Q And you've also estimated damages for harm to reputation when there was confusion in the marketplace?

A That is correct. You see that in trademark cases, things of that nature.

Q And in the past, have you estimated damages for future damages for breach of a contract or license agreement?

MR. MOONEY: Objection, form.

A I can't say that I haven't. To the extent that there was some kind of

A I believe I gave the opinion that monetary damages could be determined in that case.

Q And the same question for the Crosstrek automobile case.

A And to be clear, that was a trademark case. And the Crosstrek case was also a trademark case. And I believe I argued that monetary damages would compensate for the harm.

Q That's a good point.

What was the general nature of the case in Liqwd and L'Oreal?

A That was a patent case over a product called Olaplex, a hair care product.

Q What was the general nature of the case of Nevro versus Boston Scientific Corporation?

A Case involving spinal cord stimulation, a patent case.

Q And the general nature of the case of Bay Materials?

A Patent case involving the

correction for malocclusions.

[redacted]

[redacted]

Q Am I correct that the harms that you have identified in your report will not take place, unless the court refuses to grant ARM's request for specific performance?

A Again, it's my understanding that the ARM ecosystem is at risk for the reasons enumerated in my report. And to the extent that the court does not grant specific performance, I understand that the market will then -- in all the ways that I have enumerated in my report -- understand that ARM's ecosystem is compromised as a result of the actions or activities in this case.

Q If you could look at page 35 of your report.

A Which report are you referring to?

Q Opening report. So this is Exhibit 255.

A 35?

Q Yes. Page 35. We're in Section B of your report. And this is little 1 of your report. And this is actually I think 7B, little 1.

The title of this section is "Existing and Prospective ARM Licensees Could Demand More Favorable Terms and Lower Royalties to Account for Increased Risk."

There are Footnotes 192 to 198 for this section. Those footnotes identify discussions with Will Abbey and Paul Williamson, along with in Footnote 195, two deposition excerpts.

So are those discussions with Will Abbey and Paul Williamson and those two deposition excerpts the basis for the statements you are making in this section of your report?

MR. MOONEY: Objection, form, mischaracterizes the footnote.

MR. ISAACSON: What am I getting wrong here?

MR. MOONEY: There's two deposition excerpts.

MR. ISAACSON: Is there a third one?

MR. MOONEY: There's three of them.

MR. ISAACSON: Oh, deposition. Okay. Thank you.

Q I'll just say the same question with three deposition excerpts.

Are these discussions with Will Abbey and Paul Williamson and those three deposition excerpts the basis for the statements you are making in this section of the report?

A That is correct. Well, I beg your pardon, with the exception of paragraph 78, which is my opinion as an expert in calculating economic damages as part of -- as part of this case, again based upon skills and experience and training.

Q But for any facts, for the conclusion that existing prospective ARM

licensees could demand more favorable terms and lower royalties to account for increased risk, you are relying on your discussions with Will Abbey and Paul Williamson and the three deposition excerpts?

A That's correct.

Q And when you say could, you say could demand in the title?

A Yes.

Q Are you assessing any probability that that could happen when you say could?

A Well, I'm not offering an opinion on probability. I'm essentially identifying where the harms in the market, harms in ecosystem could undermine ARM's business based upon the, as I said earlier, facts of this case, documents in this case, deposition testimony.

Q When you're saying in paragraph 78, "In my opinion, the scope of the harm of existing and prospective

ARM licensees demanding more favorable terms and lower royalty rates to account for increased risk cannot be readily determined or quantified, and the damages associated with that harm cannot be determined with reasonable certainty," when you make that statement, is there any level of probability that you are assuming with respect to whether the probability of ARM licensees demanding more favorable terms and lower royalties?

A No. I'm not offering a probability here. I'm basing my opinions of those events, again based upon we talk about documents that I've reviewed in this case. I think I mentioned the public filings that Abbey -- excuse me -- that ARM has set forth, identifying the lawsuit with Qualcomm, Nuvia and the potential impacts there.

Certainly, my discussion, deposition testimony based upon these experiences that these gentlemen have on a daily basis, discussing with potential

customers or licensees.

Q The point that existing and prospective ARM licensees could demand more favorable terms and lower royalties to account for increased risk, is that sufficient for you to reach the opinion that monetary damages in this case cannot be readily determined or quantified and cannot be determined with reasonable certainty?

A Certainly.

Q You say in paragraph 76, "For example, current and prospective ARM licensees could consider the impact of Qualcomm or other licensees where prospective licensees breaching their license agreements and misusing ARM's technology, ARM confidential information and products embodying such technology or information."

So that risk, that ARM licensees could demand more favorable terms and lower royalties, does that happen anytime you have an ARM licensee

breach their license agreements?

A I think that to the extent that ARM licensees breach their license agreements and misuse ARM technology -- and I talk about several impacts of that -- existing licensees may be less inclined to respect their license terms or selectively misinterpret terms.

I talk about several other issues as well in the same paragraph, along those same lines. I would say that the fact that this is Qualcomm, and Qualcomm is one of, I think, the three or four largest licensees within the ARM licensing ecosystem. So obviously, very public.

[redacted]

Q So my question's about other licensees.

Did you take into consideration whether existing or prospective ARM licensees before they decided to consider breaching their own license agreements would take into account a large monetary award against Qualcomm?

MR. MOONEY: Objection, form.

A I was answering that question when you interrupted me.

Q Well, then I'm not saying it clearly.

If in lieu of specific performance, the court awarded a large amount of monetary damages in this case.

Do you think that prospective and current licensees of ARM would take that into account in making their decisions about their own licensing agreements?

A Well, I can't necessarily

tell you what other prospective licensees would think. They may or they may not. Again, I think that the position of ARM is to protect the ecosystem because the ecosystem has been -- the licensing ecosystem system has been largely built over a significant period of time, significant amounts of R&D, investments. I think it's upwards of 40 percent of their overall revenue being plowed back into R&D in order to create technology that licensees want.

And licensees need to trust that when they license into that ecosystem that they will, in fact, get the benefits of the ecosystem while at the same time be able to trust that the ecosystem is intact.

And now if you're asking me to the extent that there was a large sum of money that was paid that showed the ecosystem or represented to the ecosystem that the ARM licensing ecosystem was intact, I can't tell you what those

parties would think. But my sense is that the goal here is to protect the ARM ecosystem. And given the factual pattern of this case, if this were to move forward without there being a specific performance, that would have a harm to the ecosystem. If there was some amount of money that was communicated to the market, I don't know what that would be.

Again, I don't think it's -- can be determined with a reasonable degree of certainty as I sit here based upon the unknown impacts of the breach at this time on the ecosystem.

MR. MOONEY: We've just been going over an hour, if this is a good time for a break.

MR. ISAACSON: Sure.

THE VIDEOGRAPHER: This will end Media Unit 2, going off the record at 11:41.

(A short recess was taken.)

THE VIDEOGRAPHER: We're back on the record at 11:54. This

will begin Media Unit 3.

Q Am I correct that if ARM licensees were deciding they still trusted the ARM ecosystem after a large award of damages, you don't have an opinion about what they would think or not think about that?

MR. MOONEY: Objection to form.

A Can you repeat that?

Q Sure.

Am I correct that if ARM licensees were deciding whether they still trusted the ARM ecosystem after a large award of damages against Qualcomm, you don't have an opinion about what they would be thinking?

MR. MOONEY: Objection, form.

A You said if they were considering the ecosystem after a large award of damages, you're asking me if I have an opinion as to what they would be thinking?

Q Yes.
A Well, I mean I can't tell you specifically what each member of the ecosystem would be thinking. But I guess I could -- I would say that it would depend on whether there was a communication to the marketplace that the ecosystem was, in fact, intact and that their participation in that ecosystem remained without risk and would provide them the benefits that they had sought from their first introduction and entrance into the ecosystem.
Q Am I correct that you would not have an opinion if there were a large award of damages against Qualcomm in this case whether licensees would conclude that the ecosystem was still intact and without risk?
MR. MOONEY: Objection to form.
A And you're saying that is in lieu of specific performance?
Q Yes.

A Well, again, it would depend on how the marketplace viewed that award. I can't tell you that that award would be adequate to compensate for harms that otherwise would have occurred. I can't tell you that number could have been calculated to a degree of reasonable certainty.
But if you're asking me to put myself in the mind's eye of the ecosystem, I believe the ecosystem would -- to the extent that they're aware it -- be of the opinion that whatever ARM's urging the court to do would be the outcome. Anything less than that I think would be seen as ARM's inability to control and protect its ecosystem.
Again, whether I can provide you with an understanding of what each individual or specific licensee in the ecosystem would be thinking, no, I can't provide you that. I think that the only way to maintain that ecosystem would be to show the market that the ecosystem is

intact. And that would be when licensees are adhering to the terms of the license agreements.
Q Is it your view that licensees will not consider the ARM ecosystem to be intact without risk, unless a court grants what ARM's urging the court to do as the proper outcome for this case?
MR. MOONEY: Objection, form.
A It's my opinion that the marketplace would have to view ARM's ability to control and maintain its ecosystem based upon the contractual obligations of those who are part of it.
Now, to the extent that there is a monetary judgment or award in this case, again, I can't tell you how participants would view that independently. But my understanding is, is that the importance of the ecosystem and ARM's ability to enforce its rights and maintain that ecosystem is, as I

understand it, critical to ARM's ability to continue to invest in the ecosystem and grow the ecosystem and enter into new and emerging markets and things of that nature.
Q If you look at page 36 of your report.
A Sorry. Can you repeat that?
Q Page 36 of your report.
A Thank you.
Q The section there, little 2, is titled "Existing and Prospective ARM Licensees Could Exploit Development and Financial Terms of Other Licenses in Unexpected Ways to Compete Against ARM's Partners."
The footnotes that relate to this section are Footnotes 199 through 217. And you'll see that those refer often to the discussions and then also to some depositions.
For the statement that existing and prospective ARM licensees could exploit development and financial

The footnotes in this section are 218 through 223 which again relate to either discussions that you had or deposition excerpts in this case of Will Abbey.

For the evidence in this section that you reviewed, are you relying on those discussions and the deposition of Mr. Abbey?

MR. MOONEY: Objection, to the extent that it mischaracterizes.

A Yes. I am relying upon the information, the evidence in this case, which includes the deposition of Mr. Abbey and Mr. Williamson, as well as the discussions of the same.

Q In paragraph 86, in the second sentence, you refer to a chilling effect. Do you see that?

A I do.

Q It says, "This chilling effect of increased uncertainty may impact the number and type of licenses that ARM could enter into with existing

or prospective partners."

When you used the term may, are you doing any assessment of probability there?

A I'm not. I'm not providing an assessment of probability. Again, my understanding is that these types of harms would be likely to the extent that the ecosystem is -- is not held intact.

Q In paragraph 87, you're quoting Mr. Abbey again.

And in the third sentence that begins, "Similarly, Mr. Abbey stated," do you see that?

A Yes.

Q It says, "Similarly, Mr. Abbey stated I think the fact that Qualcomm -- they're using intellectual property that's unlicensed to them -- has huge implications for ARM's intellectual property company."

Do you think that risk that's being described there would apply anytime a company is using ARM's

intellectual property without a license?

MR. MOONEY: Objection, form.

A Well, again, to the extent that there is a breach of contract within the ecosystem, I would think that, yes, that would have an impact on the ecosystem as discussed here.

Q And in the last sentence, it says, "Specifically, Mr. Abbey stated that as a person that spends a long time negotiating contracts that covers things like this, we spent time in meticulously reviewing these agreements and making sure these agreements are things we can stand behind."

It was your understanding based on the record that before they signed these contracts that ARM was meticulously reviewing the agreements; correct?

A Again, that would generally be my understanding. The one thing that I think that's in play here to some

extent -- and I think I talk about this in my report as it relates to Qualcomm -- is just -- the size of Qualcomm is one of the more significant licensees and the impact that that has on the ecosystem when we talk about other licensees, compared to a company the size of Qualcomm.

Q So do you think the Qualcomm contract was more meticulously reviewed than other contracts?

A I don't have an awareness of that. I'm more referring to the idea that to the extent that there is a breach of contract, which causes ARM to lose control of its intellectual property, especially with one of the licensees the size of Qualcomm and the impacts that they have on the marketplace would be very significant, maybe more so than others.

Q Do you have an opinion about whether the impact would be more so than others?

A Well, I think that throughout my report, I talk about the size of Qualcomm and the impact that Qualcomm has based upon, you know, even whether Qualcomm and Nuvia -- with Nuvia were to come out with Nuvia Cores, that the marketplace would begin to shift to and perhaps a shifting away from the ARM technology that is currently in the market. So I think there's just various parts of my report, which I refer to the size of Qualcomm, and the impact of Qualcomm on the licensing ecosystem.

Q The Qualcomm ALA -- I'm not referring to the Nuvia ALA, I'm referring to the Qualcomm ALA -- was in your materials considered which would mean you laid eyes on it. Is that something that you reviewed in any detail?

A Again, I reviewed it. It wasn't something that I reviewed from a legal standpoint to determine the metes and bounds of the contract.

Q And did you assume for

purposes of this case that Qualcomm's conduct in this case was not protected by its ALA license agreement?

MR. MOONEY: Objection to form.

A Well, I assumed that there is a breach. So if you're asking me whether their conduct was or was not a breach, I assume that.

MR. ISAACSON: We're coming up on 12:30 here. I don't know when people want to eat. I'm flexible.

THE WITNESS: I'm flexible when you get to a stopping point.

MR. ISAACSON: I'm about to move to the next section.

THE WITNESS: That's fine. We could stop.

THE VIDEOGRAPHER: This will end Media Unit 3, going off the record at 12:30.

(A lunch recess was taken.)

THE VIDEOGRAPHER: We're back on the record at 1:21. This

will begin Media Unit 4.

Q So as part of your review of evidence of the record in this case, have you seen anything that would indicate ARM's licensees or prospective licensees expect that if ARM were to prevail in this case that the court would award specific performance, rather than monetary damages?

A Can you repeat that, please?

Q Sure.

As part of evidence of the record in this case, have you seen anything that would indicate that ARM's licensees or prospective licensees expect that if ARM were to prevail in this case that the court would award specific performance, rather than monetary damages?

A Well, while I cannot -- I don't have an awareness of what ARM licensees have or have not seen. I know that there's certainly publicly available information that's disseminated on this

litigation at this point.

Q Are you aware of any publicly disseminated information that suggests that ARM is seeking specific performance and not monetary damages?

A I may or may not have seen information like that. I don't recall.

Q And you haven't seen anything that would suggest that ARM licensees or prospective licensees have any knowledge of what relief ARM is seeking in this case, whether it be specific performance or monetary damages; correct?

MR. MOONEY: Objection, form.

A While I can't tell you what specific ARM licensees have seen or have not seen, I have certainly seen information in ARM public documents. There's also certainly press releases out there.

To what degree that signals to the market specific performance or

lack thereof, I don't have an awareness of that.
Q So going back to your opening report, page 40, the next subsection, little 4, which is titled "Third-Parties and End Users May Shift to Nuvia-Based Cores," when you say may shift, is this another instance where you're not doing a probability assessment when you're saying may shift?
A I'm not doing a probability analysis. I'm basing my understanding here on the record evidence.
Q And that record evidence is set forth here in Footnotes 224 through 235 and includes your interviews, some public available articles on Forbes, publicly available articles on Forbes and some Qualcomm and ARM documents.
A Well, it's deposition testimony.
Q And deposition testimony; correct?
A That's correct.

Q In paragraph 91, which runs over on to page 42, there's a discussion of an internal Qualcomm May 22nd e-mail. Do you see that?
MR. MOONEY: Objection to form.
A Are you talking about the first sentence of 91?
Q No.
If you move over to page 42 --
A Okay.
Q -- there's a reference four lines down to an internal Qualcomm May 22 e-mail.
A Okay. I'm just reading it now. Okay.
Q There, it says in your report, [redacted]

[redacted]

[redacted]
Q Subsection C of your report, which is on page 45, is titled "Significant Negative Impact on ARM's First Mover Advantage."
And then it says in

paragraph 100, "ARM's loss of first mover advantage could cause significant detrimental effects," and then you list some detrimental effects.

When you say could, is this also a situation where you are not making any assessment of the probability of this happening?

A I'm not assessing probabilities. I'm looking at the record evidence as I understand it.

Q Are you referring to past first mover advantages or future first mover advantages or both when you say first mover advantage?

MR. MOONEY: Objection, form.

A Well, when I'm referring to first mover advantage, I think there's both past and future. So my understanding is, is that there are other markets that ARM has a desire to get into. And there could be others that develop in the future as well.

Q And what markets or market segments do you consider ARM to have a first mover advantage as of the date of your report?

A Well, by way of example, I understand that ARM was seeking to get into the server market and also the automotive market. And I understand that given the actions of the defendant in this case, I understand that those have been at least chilled or stalled at this point as ARM has lost control of its intellectual property and its ability to use that intellectual property in the markets that it had sought to enter into based upon Nuvia being acquired by Qualcomm and Qualcomm repurposing Nuvia's technology in PCs.

Q So did you understand that as of the date of this report, that ARM had achieved a first mover advantage in the server market?

A My understanding of the date of my report, that ARM was seeking to

enter into the server market based upon its workings with Nuvia in order to enter that market.

Q Let me go back to my original question. I'll get to the ones where they're seeking to achieve a first mover advantage.

What market or market segments did you consider ARM to have already achieved a first mover advantage as of the date of your report?

A So in paragraph 101, I describe a statement from an ARM document which says our CPUs initially gained significant traction in mobile phones in the mid-1990s because our energy efficient processors provided an appropriate level of performance while consuming little power.

It goes on from there. So certainly, mobile phones would be one that I would identify ARM as having a first mover advantage, as well as a significant entrenchment.

Q Did you understand that the alleged breach of the Nuvia ALA would cause harm to ARM's first mover advantage with respect to mobile phones?

A Well, to the extent that Qualcomm were to repurpose the Nuvia technology for use in mobile phones or the market was to begin to adopt the Nuvia platform in mobile phones, I understood that it was a possibility.

Q Were there any other markets in which you considered ARM to have achieved a first mover advantage by the time of your report, other than mobile phones?

A Well, ARM talks about its development in televisions, watches, washing machines, cameras, factory equipments and others undergoing the same revolution, as well as PCs.

Q Did you consider ARM to have achieved a first mover advantage in television, watches, washing machines, cameras, factory equipment?

The significant decrease in ARM's revenue and investment in research and development that you referred to there, has any of that happened to this date?

A I'm aware that I have information on that, beyond my understanding from discussions with Mr. Williamson and ARM documents which cite the importance of research and development and the importance on continued revenue generation because of how quickly the market changes and reacts to new technology introductions. So, again, this is a prospective harm based on the actions of Qualcomm and Nuvia in this case.

Q And in paragraph 121, you say, "ARM's loss of control of its intellectual property and licensing ecosystem."

When you say loss of control, is that referring to a breach of a license agreement?

A This is referring to I think the discussion throughout the report, also, the breach in this particular case, in which the impact that that would have on the ecosystem in general of chilling particular investments in ARM technology, attempts to renegotiate for lower rates because of additional risks.

Qualcomm's awareness that by acquiring Nuvia and repurposing the technology will allow it to save -- save royalty dollars as part of that acquisition are all just what I would say exemplary of the types of impacts on Nuvia's revenue and the ability to redeploy revenue into research and development dollars.

Q You say in paragraph 121, "ARM's loss of control in intellectual property and licensing ecosystem as described above is likely to result in decreased licensing revenue which would, in turn, result in decreased investment in R&D."

Are you making any probability assessment there about whether ARM will actually reduce and in future, its decreased investment in R&D?

A I'm not providing any probability assessment here.

Q [redacted]

[redacted]

Q Have you done any assessment of what decrease in revenue would result in what reduction in R&D investment by

ARM?

A [redacted]

Q And on paragraph 127 at the bottom of page 59 and 60, there's a number of single-spaced bullet points. Do you see that?

A I do.

Q And those are quotes from ARM's public filings with the SEC; right?

A Well, I think I don't want to -- I won't disagree with you, other than to say the purpose of those is there's deposition testimony of a man named Mr. Segars, who testified that unless ARM has the engineering firepower to keep its products competitive, then its role in the broader semiconductor ecosystem is at risk of fading.

Q All I've asked is whether those are quotes of ARM's public filings.

A I know you did. And I'm providing some background.

Q I'm not looking for background on that. I just want to do it and move on.

MR. MOONEY: Counsel, just let him finish the response.

A That's fine. If you want an incomplete answer, that's fine. That's part of my analysis in this case as reflected in paragraph 127 and onward.

Q And all of those risk factors, those are risk factors identified in the SEC document; correct?

A Well, again, I think it's more than that. And so I'd like to answer the question.

Q If you think it's more than that, tell me that.

A I will. That was the point of my first discussion before you cut me off and told me to stop because this is a

deposition. And you're asking me questions.

MR. MOONEY: Counsel, can you let the witness finish?

MR. ISAACSON: I'm trying not to use the whole day. And when I'm asking if something came from an SEC document, and I get a long answer, that's not helping any of us.

MR. MOONEY: Let me finish what I'm saying --

MR. ISAACSON: And I don't mean to interrupt you. Sorry.

MR. MOONEY: I appreciate it. It'll make it easier for the court reporter if you could let the witness finish what he's saying before asking the next question. We're doing pretty well.

A So, again, what I was getting at here is there's something that was identified as a knock-on effect in a deposition of Mr. Segars. Mr. Segars identified the relationship between R&D

and revenue. And what these particular points are set forth to do is to identify that even within public filings where ARM is going to market and communicating with the marketplace more broadly, they are illustrating the relationship between maintaining revenue and the impact of dipping revenue in a knock-on effect of continued R&D redeployment.

Q Page 61, Section F, "Significant Decrease in ARM's Reputation and Goodwill."

A Okay.

Q The significant decrease in ARM's reputation and goodwill, is that harm that has taken place already or is this a future harm?

A This would be a prospective harm based upon the impact on the ecosystem, to the extent that it is determined or seen within the marketplace that ARM licensees can use ARM's technology in unexpected ways or unlicensed ways that are inconsistent

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with the licensing terms of the agreements.

Q [redacted]

Q But everything that you're relying on is cited in your footnotes to this section; correct?

A That is correct.

Q [redacted]

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[redacted]

Q Excuse me if I asked you this before. But if you did, I don't remember your answer.

[redacted]

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[redacted]

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[redacted]

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CERTIFICATION

I, ANTHONY GIARRO, a Shorthand Reporter and a Notary Public, do hereby certify that the foregoing witness, WILLIAM TODD SCHOETTELKOTTE, was duly sworn on the date indicated, and that the foregoing, to the best of my ability, is a true and accurate transcription of my stenographic notes.

I further certify that I am not employed by nor related to any party to this action.

ANTHONY GIARRO

ERRATA SHEET
VERITEXT/NEW YORK REPORTING, LLC

CASE NAME: Arm Ltd. v. Qualcomm Inc., Et Al.
DATE OF DEPOSITION: 7/2/2024
WITNESSES' NAME: William Todd Schoettelkotte

PAGE	LINE (S)	CHANGE	REASON

William Todd Schoettelkotte

SUBSCRIBED AND SWORN TO BEFORE ME
THIS ___ DAY OF _____, 20__.

(NOTARY PUBLIC) MY COMMISSION EXPIRES:

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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EXHIBIT 18

HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARM LTD., a U.K. corporation, Plaintiff, v. QUALCOMM, INC., a Delaware corporation, QUALCOMM TECHNOLOGIES, INC., a Delaware corporation, and NUVIA, INC., a Delaware corporation Defendants.	§ § § § § § § § § § § § §	C.A. No. 22-1146 (MN))

EXPERT REPORT OF W. TODD SCHOETTELKOTTE
RELATING TO REMEDIES FOR DEFENDANTS' BREACH OF CONTRACT

I DECLARE UNDER PENALTY OF PERJURY THAT THE FOLLOWING IS TRUE AND CORRECT.

W. TODD SCHOETTELKOTTE

12-20-23

EXECUTED ON

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I. INTRODUCTION

1. Plaintiff Arm Ltd. ("Arm" or "Plaintiff") has accused Defendants Qualcomm Inc., Qualcomm Technologies, Inc. (collectively, "Qualcomm") and Nuvia, Inc. ("Nuvia") (both collectively, "Defendants") of breaching the Nuvia Architecture License Agreement (the "Nuvia ALA").[1] More specifically, I understand Arm alleges that Nuvia was acquired by Qualcomm without Arm's consent to assignment of the Nuvia ALA, and that Nuvia therefore breached [redacted] of the Nuvia ALA.[2] I understand that Arm further alleges that subsequent to Arm's termination of the Nuvia ALA, [redacted] As a remedy for Defendants' breach of the Nuvia ALA, I understand that [redacted]

2. I have been retained as an expert on behalf of Arm to assess and provide testimony regarding whether damages are adequate to compensate Arm for the harm caused by Defendants' breach of the Nuvia ALA. For purposes of this report, and to address this issue, I

[1] Complaint, August 31, 2022, pp. 16 – 18.
[2] Complaint, August 31, 2022, pp. 10 – 11; ARM_00111064 – 080 at 078.
[3] [redacted]
[4] Complaint, August 31, 2022, pp. 13 – 16; ARM_00111064 – 080 at 077.
[5] Complaint, August 31, 2022, pp. 16 – 18; ARM_00111064 – 080 at 077. I am informed and understand that Arm is not requesting that any silicon (physical computer chips) made before Qualcomm's acquisition be destroyed, to the extent there are any.

was asked to assume that Defendants are found liable for breach of the Nuvia ALA. I offer no opinion regarding liability.

3. I have also been asked to assess and provide testimony regarding the damages associated with Arm's claim for trademark infringement. I offer no opinion regarding liability.

4. My analysis, as set forth in this report, is based on information available to me as of the date of this report.

II. CREDENTIALS AND COMPENSATION

5. I am a Senior Managing Director of J.S. Held LLC ("J.S. Held"), a global consulting firm providing specialized technical, scientific, financial, and advisory services.[6] I currently serve as the firm's Intellectual Property Practice Lead. For more than 25 years, I have provided economic and financial consulting services in a variety of litigation matters and disputes, including intellectual property, breach of contract, business interruption, valuation, and general damage assessments. These services have included analyses of irreparable harm, lost sales, lost wages, lost profits, incremental profits, price erosion, reasonable royalties, product line profitability, fixed and variable costs, cash flows, and other related financial information. I have consulted with numerous publicly traded and closely held companies in a variety of industries, including software, medical products, biotechnology, electronics, semiconductors, Internet, telecommunications, consumer products, food services, oil and gas, and others. Within the semiconductor and integrated circuit industry, my experience includes testimony and consultation on matters involving licensing disputes, patent infringement, and trade secret misappropriation related to silicon chip fabrication, integrated circuits for power conversion, as

[6] J.S. Held and its affiliates and subsidiaries are not a certified public accounting firm and do not provide audit, attest, or any other public accounting services. J.S. Held is not a law firm and does not provide legal advice.

well as components and functionality within mobile devices, automobiles, and Field Programable Gate Arrays ("FPGAs").

6. I am a Certified Public Accountant ("CPA"), licensed in Texas, and a Certified Valuation Analyst ("CVA"). I am a member of the American Institute of CPAs ("AICPA"), the Texas CPA Society, and the National Association of Certified Valuators and Analysts ("NACVA"). I am also a member of the Licensing Executives Society ("LES"), an organization of more than 2,500 members, including corporate executives and professionals involved in the licensing and valuation of patents, trademarks, and other intellectual property. Additionally, I have served as a Guest Lecturer at the Chicago-Kent College of Law, the Georgetown University Law Center, the John Marshall Law School, and the University of Oregon Law School on topics including accounting, valuation of intellectual property, and intellectual property management. I have been named by *Intellectual Asset Management* as one of the leading patent damages experts in the United States. Attached as Schedule 1 to this report is a summary of my professional background and testifying experience, including all publications over the last ten years and all expert testimonies over the last four years.

7. J.S. Held is compensated for my team's involvement in this matter based upon J.S. Held's hourly billing rates. My time is currently billed at a rate of $695 per hour. J.S. Held's fee is not contingent upon the outcome of this litigation or the opinions that I express.

III. INFORMATION REVIEWED AND CONSIDERED

8. In connection with the preparation of this report, I have reviewed and considered information from a variety of sources, including documents and data produced by the parties; legal documents (and related exhibits); deposition testimony (and related exhibits); and publicly available information, articles, press releases, and Internet websites. The documents and other information that I have reviewed and considered as of the date of this report include those cited

throughout this report (including the footnotes) as well as those listed on Schedule 2 attached to this report. I have also held discussions with Arm personnel, including Will Abbey (Executive Vice President & Chief Commercial Officer at Arm), Christine Tran (Senior Director of Legal at Arm), and Paul Williamson (Senior Vice President and General Manager of IoT Line of Business at Arm), as well as Arm's technical expert, Robert Colwell, Ph.D. In addition, I have reviewed and considered the following deposition transcripts (and related exhibits):[7]

Arm Personnel

- Will Abbey, Executive Vice President & Chief Commercial Officer
- Jonathan Armstrong, Head of Brand and Creative Services
- Lynn Couillard, Vice President of Sales
- Richard Grisenthwaite, Executive Vice President & Chief Architect
- Rene Haas, Chief Executive Officer
- Tim Herbert, Vice President of North American Sales (retired)
- Simon Segars, Former Chief Executive Officer
- Karthik Shivashankar, Senior Director of Wearables and Commercial Licensing
- Christine Tran, Senior Director of Legal (rough transcript)
- Ian Thornton, Vice President of Investor Relations (rough transcript)
- Paul Williamson, Senior Vice President and General Manager of IoT Line of Business
- Mark Werkheiser, Distinguished Engineer

Nuvia Personnel

- Lynn Bos, former Technical Program Manager
- Manu Gulati, former Founder & Senior Vice President of Engineering
- Pradeep Kanapathipillai, former CPU Microarchitecture and RTL Lead
- Nitin Sharma, former CPU Verification Engineer
- Jignesh Trivedi, former CPU Verification Engineer
- Gerard Williams, III, former Founder & Chief Executive Officer

Qualcomm Personnel

- Cristiano Amon, President and Chief Executive Officer
- Ziad Asghar, Senior Vice President of Product Management
- Geeta Balakrishnan, Principal Engineer in the CAD Team

[7] I understand that certain final deposition transcripts were not yet available to me at the time I submitted my Report. Accordingly, I may supplement my Report to incorporate the content of those final deposition transcripts.

- Ramakrishna Chunduru, former Chief Procurement Officer
- Michael Roberts, Vice President of Global Marketing
- Laura Sand, Senior Vice President, Legal Counsel
- Rohit Singh, Director of Program Management
- James Thompson, Chief Technology Officer

9. In forming my opinions in this case, I have relied upon the information and documents identified in this report, and I have also relied upon my more than 25 years of experience and expertise in analyzing remedies for misuse of intellectual property, analyzing the adequacy of damages to compensate for harms relating to the misuse of intellectual property, and assessing and calculating damages adequate to compensate for such harms. My analysis in this case is ongoing. Should additional information, such as documents or data provided by the parties, testimony, whether through expert report or deposition, or rulings issued by the Court, come to my attention after the date of this report, I may find it necessary to update or revise my analysis, opinions, and conclusions. I reserve my right to do so.

IV. LEGAL FRAMEWORK FOR DAMAGES

10. I am not an attorney and do not intend to provide any legal opinion. In forming my opinions, I have assumed a breach of the Nuvia ALA termination provisions.

11. I am informed and understand that if Defendants breached the ALA, then Arm is entitled to recover monetary damages or, alternatively, to specific performance of Defendants' contractual obligation(s) including the [redacted].

12. I am informed and understand that specific performance is appropriate only if monetary damages are not adequate to compensate Arm for the harm (including future harm) caused by Defendants' breach of the Nuvia ALA.

13. I am informed and understand that monetary damages are not adequate to compensate Arm for harm (including future harm) if those damages cannot be determined with reasonable certainty. I am informed and understand that "reasonable certainty" requires that

damages be established to a reasonable degree of certainty (or fair degree of probability), but does not require absolute certainty, absolute assurance, or mathematical exactitude as to the precise amount of damages. I am informed and understand that damages are not "reasonably certain" where they are merely speculative or conjectural.

V. SUMMARY OF OPINIONS

14. In my opinion, if Defendants are found liable for breach of the Nuvia ALA but are not ordered to discontinue the use and distribution of [redacted], then monetary damages are not adequate to compensate Arm for the harm (including future harm) caused by Defendants' breach of the Nuvia ALA.

15. In my opinion, the monetary damages associated with the harm to Arm (including future harm) caused by Defendants' breach of the Nuvia ALA (if Defendants are not ordered to discontinue the use and distribution of [redacted]) cannot be determined with reasonable certainty. In my opinion, the monetary damages associated with the following harms that may result from Defendants' breach of the Nuvia ALA, individually and collectively, cannot be determined with reasonable certainty:

- disruption to Arm's ability to control the use and distribution of Arm's intellectual property (including [redacted]) and to maintain Arm's licensing ecosystem;
- significant negative impact on Arm's first mover advantage;
- harm to Arm's expansion into new segments and markets;
- a decrease in licensing revenue and investment in research and development; and
- a decrease in Arm's reputation and goodwill.

16. As it relates to the disruption to Arm's ability to control the use and distribution of Arm's intellectual property (including [redacted]) and to maintain Arm's licensing ecosystem, Defendants' breach of the ALA could have a cascade of significant effects including:

- existing and prospective Arm licensees could demand more favorable terms and lower royalties to account for increased risk;
- existing and prospective licensees could exploit development and financial terms of other licensees in unexpected ways to compete against Arm's partners;
- Arm will not be able to rely on provisions in its existing and prospective licenses to protect its intellectual property (including [redacted]);
- third parties and end users may shift to Nuvia-based Cores (discussed below); and
- existing and prospective licensees may shift away from Arm chips.

17. Several factors relating to Arm's intellectual property (including [redacted]) and the industry and market segments in which Arm's intellectual property is implemented exacerbate the difficulty of determining the monetary damages associated with the above harms, individually and collectively, with reasonable certainty. Those factors include the following:

- Qualcomm is a long-term Arm licensee and one of Arm's largest licensees by revenue which may magnify the signal sent to existing and prospective Arm licensees about Arm's ability to control its intellectual property;
- The relative speed with which the CPU industry develops which means that the short-term as well as longer-term harms resulting from Defendants' breach are difficult to predict and could lead to large and unforeseeable impacts (*e.g.*, in a "butterfly effect" type manner);
- The acute uncertainty of the harms given the actions of current and prospective licensees, and unknown emerging market segments, among other uncertainties. Such factors include (but are not limited to) the inability to quantify the number prospective licensees and related revenue,

as well as the difficulty in measuring the financial impact of actions that current and prospective licensees may take based on the decisions of other licensees.

VI. BACKGROUND

A. Industry Overview

i. CPU Background

18. Modern computing devices (including mobile phones, personal computers, cloud computing devices, servers and autonomous vehicles) operate by the use of a central processing unit ("CPU"), sometimes simply referred to as a "processor."[8] CPUs are the component of a computing device which "performs arithmetic, logic, and other operations to transform data input into more usable information output," and are comprised of "a complex set of electronic circuitry that runs the machine's operating system and apps."[9] A "CPU core" or "processor core" is the "processing unit within the CPU that can execute instructions. The more cores a CPU has, the more tasks it can handle simultaneously."[10] The number of cores within a CPU can vary "depending on their intended use case. For example, a mobile-focused CPU might have fewer cores in order to conserve battery life, while a desktop-focused CPU might have more cores for improved performance."[11] One or more CPUs (each including one or more cores) can be integrated onto a System-on-a-Chip ("SoC").[12] An SoC is a single package that contains one or more CPUs (each including one or more cores) along with other components such as "memory, input and output ports, peripheral interfaces and secondary storage devices."[13]

[8] https://semiengineering.com/knowledge_centers/integrated-circuit/ic-types/processors/central-processing-unit-cpu/; Discussions with Robert Colwell.
[9] https://www.arm.com/glossary/cpu; Discussions with Robert Colwell.
[10] https://www.lenovo.com/us/en/glossary/cpu-core/.
[11] https://www.lenovo.com/us/en/glossary/cpu-core/; Discussions with Robert Colwell.
[12] https://www.arm.com/glossary/soc-development; https://www.arm.com/glossary/cpu.
[13] https://www.arm.com/glossary/soc-development; https://www.arm.com/glossary/cpu; Discussions with Robert Colwell.

19. A CPU is defined by architecture that allows the CPU to interface between the hardware of a computing device and its software.[14] These interfaces are referred to as "instruction set architectures" or "ISAs."[15] There are two different architectures, or "schools of thought," "about how a processor's [ISA] is designed:" Complex Instruction Set Computers ("CISC") and Reduced Instruction Set Computer ("RISC").[16] CISC architecture "supports complex instructions that can be carried out across multiple clock cycles, while RISC must use simple instructions that can be executed within a single cycle."[17] The most commonly used architecture for ISAs is RISC.[18] RISC is "is an alternative to the Complex Instruction Set Computing (CISC) architecture and is often considered the most efficient CPU architecture technology available today."[19] When compared to CISC, RISC has a "significantly higher architecturally-determined performance."[20] ARM, or "Advanced RISC Machine" is a specific family of instruction set architecture that is based on RISC and was developed by Arm.[21] Arm architecture, including its RISC-based ISAs, are "are common in smartphones, tablets, laptops, gaming consoles and desktops, as well as a growing number of other intelligent devices."[22]

20. The global market for microprocessor chips is estimated to increase from $106 billion in 2022 to $185.39 billion by 2032, at a compound annual growth rate ("CAGR") of 5.8%.[23] With this comes the continued efforts to innovate the microprocessor market. A "common

[14] https://www.arm.com/glossary/isa; Discussions with Robert Colwell.
[15] https://www.arm.com/glossary/isa; Discussions with Robert Colwell.
[16] https://www.gigabyte.com/Glossary/cisc; Discussions with Robert Colwell.
[17] https://www.gigabyte.com/Glossary/cisc.
[18] https://www.precedenceresearch.com/microprocessor-market.
[19] https://www.arm.com/glossary/risc.
[20] Bhandarkar, Dileep, and Douglas W. Clark. "Performance from architecture: comparing a RISC and a CISC with similar hardware organization." *Proceedings of the fourth international conference on Architectural support for programming languages and operating systems*. 1991, p. 318.
[21] https://www.arm.com/glossary/risc.
[22] https://www.arm.com/glossary/risc.
[23] https://www.precedenceresearch.com/microprocessor-market.

advancement[] in CPU technology is making []transistors smaller and smaller."[24] A smaller process node (which is comprised of transistors that are used to "perform all the of number crunching and data storage done inside the chip") translates "to a higher number of calculations per second – and less energy released as heat."[25] The dramatic improvement in CPU speeds over the decades is often referred to as "Moore's Law," [26] which "is the observation that the number of transistors on an integrated circuit will double every two years with minimal rise in cost "[27]

ii. CPU Use in Various Segments

21. CPUs are used in numerous applications or segments. For example, in the mobile segment, "[t]he mobile applications processor is the primary chip in a smartphone, and runs the operating system and applications in addition to controlling many of the device functions, including gaming, music, video, and any other applications. While high compute performance is required for today's applications, processors also must be highly energy efficient so that the smartphone's battery will last all day without needing to be recharged."[28] Mobile applications processors are expected to handle even more processing capabilities with the increase in "high-performance processing capabilities, including the shift to 5G, growth in mobile gaming, and emergence of AI and ML workloads."[29]

22. CPUs are also widely used in consumer electronics, which include "products found in the home, such as digital TVs, tablets, laptops, [and] extended reality ('XR') headsets and wearables."[30]

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[24] https://www.digitaltrends.com/computing/what-is-a-cpu/.
[25] https://www.techspot.com/article/1856-aiming-for-atoms-chip-manufacturing/.
[26] https://www.digitaltrends.com/computing/what-is-a-cpu/.
[27] https://www.intel.com/content/www/us/en/newsroom/resources/moores-law.html.
[28] ARM_01259705 – 0105 at 9718.
[29] ARM_01259705 – 0105 at 9718.
[30] ARM_01259705 – 0105 at 9718.

23. CPUs are also used in the embedded segment or "Internet of Things" ("IoT") where they are included in a "wide range of goods, including washing machines, thermostats, digital cameras, drones, sensors, surveillance cameras, manufacturing equipment, robotics, electronic motor controllers and city infrastructure and building management equipment."[31]

24. The automotive market also uses CPUs for tasks such as "IVI [in-vehicle-infotainment], ADAS [Advanced Driver Assistance Systems], engine management, and body and chassis control."[32] CPUs in vehicles are "expected to increase as ADAS, electrification, IVI, and eventually autonomous driving, accelerate requirements for higher compute performance in newly manufactured vehicles."[33]

25. Within the networking equipment segment, CPUs are "deployed into wireless networking such as base-station equipment, enterprise Wi-Fi, and wired networking equipment such as routers and switches. The market is growing as more wired and wireless infrastructure is deployed, as much of the data consumed in the cloud is created at the edge and needs to be transmitted over networks to the data center for processing."[34]

26. CPUs in the cloud compute, data center, and server segment are used in "the main server chips, data processing units (DPUs), and smart network interface cards (SmartNICs) used by [cloud service providers] to run their operations. The increase in cloud computing has been driven by the rapid increase in data traffic generated by consumers and enterprises globally and by the migration of enterprise workloads to the cloud."[35] Server CPUs "serve[] as a crucial component responsible for processing instructions and commands within a server. Its role

[31] ARM_01259705 – 0105 at 9718.
[32] ARM_01259705 – 0105 at 9719.
[33] ARM_01259705 – 0105 at 9719.
[34] ARM_01259705 – 0105 at 9719.
[35] ARM_01259705 – 0105 at 9719.

encompasses tasks such as retrieving and executing instructions, processing data, and undertaking various computational functions like serving web pages and executing database queries. As the linchpin of server functionality, the CPU plays a pivotal role in determining the computing capabilities of servers. The responsiveness and overall performance of a server are heavily influenced by the efficiency of its CPU."[36] It is my understanding that a server CPU works in four basic steps:[37]

- Fetch: "The CPU retrieves instructions from memory, interprets them, and determines the next operation to be performed."
- Decode: "All instructions or commands undergo translation into assembly instructions. During this stage, the server CPU decodes the assembly code, converting it into understandable binary instructions."
- Execute: "The CPU carries out instructions using calculations and technical algorithms, producing processed data as output."
- Store: "Following the execution of instructions, the CPU stores the output data back into the memory. This sequence of operations forms the core functioning of a server CPU, enabling it to process and manage data effectively."

27. The performance of server CPUs can be measured based on the number of cores, number of threads, and clock speed.[38] I understand that server processors differ from personal computer processors.[39] Server processors are built to withstand ample amounts of data and serve multiple users, requiring highly reliable components with enterprise-grade cache requirements.[40]

[36] https://community.fs.com/article/what-is-a-server-cpu.html.
[37] https://community.fs.com/article/what-is-a-server-cpu.html.
[38] https://www.gigabyte.com/Article/server-processors-the-core-of-a-server-s-performance.
[39] https://www.gigabyte.com/Article/server-processors-the-core-of-a-server-s-performance.
[40] https://www.gigabyte.com/Article/server-processors-the-core-of-a-server-s-performance.

B. Arm

28. Arm is described as "the industry leader of CPUs" that is relied on by "the world's leading semiconductor companies and OEMs."[41] Arm is also known as "[t]he global leader in the development of licensable compute technology.[42] Arm was established in 1990, was first publicly listed on the NASDAQ in 1998, and is headquartered in the United Kingdom.[43] Since its founding, Arm has spent decades developing "the most pervasive CPU architecture in the world," which includes not only CPU products but also a "portfolio of products that are deployed alongside [its] CPUs," such as graphics processing units ("GPUs"), system IP, compute platform products, as well as development tools and software.[44] [redacted].[45] Arm continues to develop newer and more improved offerings backed by its intellectual property portfolio, and is currently on version 9 ("Arm v9") as the next generation of Arm architecture offerings.[46] [redacted]

[41] ARM_01259705 – 0105 at 9712.
[42] ARM_01427450 – 492 at 451.
[43] ARM_01259705 – 0105 at 9713 – 9714.
[44] ARM_01259705 – 0105 at 9716.
[45] Deposition of Simon Segars, November 16, 2023, p. 47.
[46] https://www.arm.com/architecture/cpu.
[47] Deposition of Will Abbey, October 27, 2023, p. 168 ([redacted] "); *see also* Deposition of Paul Williamson, November 9, 2023, pp. 300 – 301 and 304 – 305.
[48] ARM_01259705 – 0105 at 9718.
[49] ARM_01259705 – 0105 at 9713.

29. Arm partners with companies of varying size.[50] With "thousands of partners, [Arm's] customers can go to market faster with [] products that customers demand."[51,52] Companies such as Indie Semiconductor, Phoenix Technologies, MediaTek, Maven Silicon, and many others participate in Arm's partnership program.[53] [redacted]

[redacted]: [54,55]

- [redacted]
- [redacted]
- [redacted]

30. In addition, Arm boasts the industry's largest software ecosystem with over 15 million developers and 10 million apps supported by operating systems such as Android, iOS, Linux, and Windows, among others.[56]

31. [redacted]

[50] https://www.arm.com/partners.
[51] https://www.arm.com/partners.
[52] [redacted]
[53] https://www.arm.com/partners; ARM_01259705 – 0105 at 9720.
[54] https://www.arm.com/partners; ARM_01259705 – 0105 at 9720; Deposition of Paul Williamson, November 9, 2023, p. 279; Discussions with Paul Williamson.
[55] Certain of the example licensees identified have capabilities of more than one category (*i.e.*, Samsung).
[56] ARM_01427450 – 492 at 458.

[redacted][58]

32. [redacted][60]

33. Arm's has a strong presence in mobile applications processors.[61] Since 2016, Arm has sought to "further develop and market [its] products to build on [its] success in powering the world's smartphones and other consumer electronic devices."[62] Specifically, Arm has "focused in recent years on making Arm the ubiquitous provider of compute technology in all market segments by expanding into new markets, including cloud computing, networking, automotive, and IoT, most of which have strong secular tailwinds."[63] However, the cloud computing (*i.e.*, server) market in particular is dominated by x86 CPUs,[64] which "are ubiquitous in today's data centers and IT infrastructure because they profit from the complete hardware and software ecosystem that is the result of Intel and AMD's long years of developing the market; they also offer incredibly fast response time and excel at tackling complex workloads through multithreading."[65] Indeed, a May 2021 IBS semiconductor industry report indicated Intel's share in the data center CPU market is significant with AMD seeking to increase its share.[66] In addition,

[57] ARM_01259705 – 0105 at 9713.
[58] ARM_01259705 – 0105 at 9718.
[59] ARM_01427450 – 492 at 451.
[60] ARM_01427450 – 492 at 452.
[61] ARM_01259705 – 0105 at 9718.
[62] ARM_01259705 – 0105 at 9714.
[63] ARM_01259705 – 0105 at 9714.
[64] Discussions with Will Abbey.
[65] https://www.gigabyte.com/Article/server-processors-the-core-of-a-server-s-performance.
[66] ARM_00088045 – 303 at 070, 074, 127, and 129; *see also* Deposition of Tim Herbert, October 25, 2023, p. 29.

[redacted] CPUs in terms of value in 2020 (and only [0 – 5]% in terms of volume).[67]

34. [redacted]

[67] ARM_00088656 – 684 at 667; *See also* QCARM_3314892 – 915 at 899.
[68] ARM_01259705 – 0105 at 9804.
[69] ARM_01259705 – 0105 at 9713.
[70] ARM_01259705 – 0105 at 9721.
[71] Discussions with Will Abbey and Christine Tran.
[72] Discussions with Will Abbey and Christine Tran.
[73] *See, e.g.*, QCARM_2426822 – 836; Discussions with Will Abbey and Christine Tran.

[redacted][74]

36. [redacted].[81]

37. [redacted]

[74] *See, e.g.*, QCARM_2426822 – 836 at 828; *see also* Deposition of Will Abbey, October 27, 2023, p. 168.
[75] ARM_01259705 – 0105 at 9794; Deposition of Simon Segars, November 16, 2023, pp. 29 – 30.
[76] *See, e.g.*, QCARM_2426822 – 836 at 822 – 826; Discussions with Will Abbey and Christine Tran.
[77] Discussions with Christine Tran.
[78] Discussions with Christine Tran.
[79] ARM_01259705 – 0105 at 9833.
[80] ARM_01259705 – 0105 at 9833.
[81] ARM_01259705 – 0105 at 9793.
[82] *See, e.g.*, ARM_00111064 – 080 at 064 – 070; Discussions with Christine Tran; Deposition of Christine Tran, December 19, 2023, p. 66 (rough transcript)

[redacted].[88]

38. [redacted].[89]

39. [redacted]

[83] Discussions with Christine Tran.
[84] Deposition of Tim Herbert, October 25, 2023, p. 55; Discussions with Will Abbey and Christine Tran.
[85] *See, e.g.*, ARM_00111064 – 080 at 064 and 073 – 074; Discussions with Will Abbey and Christine Tran.
[86] ARM_01259705 - 0105 at 9834.
[87] Deposition of Will Abbey, October 27, 2023, p. 91.
[88] ARM_01259705 - 0105 at 9793.
[89] Discussions with Will Abbey and Paul Williamson.
[90] Deposition of Will Abbey October 27, 2023, p. 352; *see also* Deposition of Paul Williamson, November 9, 2023, pp. 238 and 243 – 244.

[redacted][94]

40. [redacted]

41. [redacted]

[91] Deposition of Will Abbey, October 27, 2023, p. 324.
[92] Deposition of Will Abbey, October 27, 2023, p. 361.
[93] Deposition of Paul Williamson, November 9, 2023, p. 246.
[94] Deposition of Paul Williamson, November 9, 2023, p. 246.
[95] Discussions with Paul Williamson and Christine Tran.
[96] Discussions with Paul Williamson and Christine Tran.
[97] Discussions with Paul Williamson and Christine Tran.

[redacted][98] For example, [redacted]

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42. [redacted]

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[redacted][101] For example, [redacted]

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43. [redacted]

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[98] Discussions with Paul Williamson and Christine Tran.
[99] ARM_00111064 – 080 at 078.
[100] Discussions with Paul Williamson and Christine Tran.
[101] Discussions with Paul Williamson and Christine Tran.
[102] ARM_00111064 – 080 at 077.
[103] Discussions with Paul Williamson and Christine Tran.

[redacted][redacted][104]

C. Qualcomm

44. Qualcomm is one of the world's largest semiconductor companies, developing products directed to wireless communications, networking, personal computers, cell phones, automobiles, and other high-tech electronic devices.[105] Qualcomm's primary focus is on the mobile market, where it markets and develops its "Snapdragon" CPU products on a worldwide scale.[106] Qualcomm is one of Arm's largest partners, accounting for approximately 11% of Arm's annual revenue.[107] Qualcomm has an ALA and TLA with Arm.[108] Arm and Qualcomm executed the first TLA in September 1997 and first ALA in September 2003.[109] I understand that prior to acquiring Nuvia (discussed below), [redacted].[110]

45. Qualcomm, via QCT ("Qualcomm CDMA Technologies"), "utilizes a fabless production model, which means that [it] do[es] not own or operate foundries for the production of silicon wafers from which [its] integrated circuits are made."[111] Qualcomm's reliance on third-party licensing and manufacturing contracts negates the need for procurement of raw materials.[112] This segment holds significant importance to Qualcomm as "[d]ie cut from silicon

[104] Discussions with Will Abbey and Paul Williamson.
[105] https://www.investopedia.com/articles/markets/012216/worlds-top-10-semiconductor-companies-tsmintc.asp; https://www.qualcomm.com/products.
[106] https://www.qualcomm.com/snapdragon/overview; Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 31; Deposition of Ramakrishna Chunduru, October 30, 2023, p. 40.
[107] ARM_01259705 – 0105 at 9754.
[108] ARM_00060458 – 512; ARM_00044650 – 692.
[109] ARM_00095370 – 449 at 370.
[110] Deposition of James Thompson, November 11, 2023, pp. 53 – 56.
[111] https://investor.qualcomm.com/segments/qct; Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 11.
[112] Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, pp. 4 and 11 - 12.

wafers are the essential components of all of [its] integrated circuits and a significant portion of the total integrated circuit cost."[113] The primary foundry suppliers for QCT include Samsung Electronics, Semiconductor Manufacturing International Corporation, and TSMC and generally take place in the Asia-Pacific region.[114]

46. In addition to licensing intellectual property (*e.g.*, from Arm), Qualcomm also has a licensing entity referred to as QTL ("Qualcomm Technology Licensing").[115] QTL grants licenses or otherwise provides rights to use portions of Qualcomm's intellectual property portfolio, which includes certain patent rights essential to and/or useful in the manufacture and sale of certain wireless products.[116] A significant portion of QTL's licensing revenues are derived from agreements and grants under Qualcomm's cellular standard-essential patents.[117]

D. Nuvia and the Nuvia ALA

47. Nuvia was a semiconductor company founded in early 2019 by three former Apple engineers: Gerard Williams III, Manu Gulati, and John Bruno.[118] Nuvia was formed with the aim of developing energy-efficient server CPUs based on Arm architecture for use in data centers.[119]

48. In September 2019, Nuvia executed an ALA with Arm as well as a TLA ("Nuvia TLA").[120] The Nuvia ALA included [redacted]:[121]

[113] Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 12.
[114] Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 12.
[115] Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 7.
[116] Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 7.
[117] Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023, p. 12.
[118] NuVia, Inc., Private Company Profile, *S&P Capital IQ*.
[119] QCARM_3314892 – 915 at 893; https://web.archive.org/web/20210115193713/https://nuviainc.com/; *see also* Deposition of Tim Herbert, October 25, 2023, pp. 28 and 31; Deposition of Richard Grisenthwaite, November 15, 2023, p. 62; Deposition of Nitin Sharma, October 27, 2023, p. 38.
[120] ARM_00111064 – 090 at 064; QCARM_2426822 – 836.
[121] Discussions with Christine Tran.

[redacted]

50. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[122] ARM_00111064 – 080 at 064.
[123] ARM_00111064 – 080 at 064.
[124] ARM_00111064 – 080 at 064.
[125] *See, e.g.*, ARM_00111064 – 080 at 078; Discussions with Will Abbey and Christine Tran.
[126] ARM_00111064 – 060 at 078.

51. [redacted]

52. I understand that Nuvia worked from 2019 through early 2021 to develop a custom processor core for the server market based on Arm architecture.[131] Arm provided significant support to Nuvia during its development of an Arm-based core for the server market.[132] In August 2020, Nuvia (in collaboration with Arm) had appeared to succeed, and announced its "first-generation CPU, code-named 'Phoenix.'"[133] [redacted]

[127] *See, e.g.*, ARM_00111064 – 080 at 077; Discussions with Christine Tran
[128] *See, e.g.*, ARM_00111064 – 080 at 077; Discussions with Christine Tran.
[129] ARM_00111064 – 080 at 077.
[130] ARM_00111064 – 080 at 077.
[redacted]
https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia.
[132] Deposition of Richard Grisenthwaite, November 15, 2023, pp. 77 – 78.
[133] https://medium.com/silicon-reimagined/performance-delivered-a-new-way-8f0f5ed283d5.
[redacted]

53. Nuvia had its initial round of Series A funding in November of 2019 that raised $53 million.[135] Dell Technologies Capital, among other investment groups, were involved in the round of funding.[136] Nuvia based cores, developed with support from Arm, had begun to gain significant traction throughout the industry.[137] In September 2020, Nuvia raised $240 million in Series B funding with plans to "deliver industry leading CPU performance to the data center."[138]

E. Qualcomm's Acquisition of Nuvia and Continued Development of Nuvia-based Cores

54. On January 27, 2021, Qualcomm notified Arm that Qualcomm had "entered into a definitive agreement to acquire NUVIA Inc."[139] Qualcomm acknowledged that [redacted][140] [redacted][141] Qualcomm asked for a response in one week, on February 3, 2021, "given the pace of the acquisition," and "apologize[d] for the short fuse on th[e] request."[142]

[135] https://web.archive.org/web/20210422062904/https://nuviainc.com/nuvia-raises-53-million-to-reimagine-silicon-design-for-the-data-center/.
[136] https://web.archive.org/web/20210422062904/https://nuviainc.com/nuvia-raises-53-million-to-reimagine-silicon-design-for-the-data-center/.
[137] Deposition of Richard Grisenthwaite, November 15, 2023, pp. 77 – 78; QCARM_0584334 – 345 at 336.
[138] https://web.archive.org/web/20210316180114/https://nuviainc.com/.
[139] ARM_00032601 – 602 at 602.
[140] ARM_00032601 – 602 at 602.
[141] ARM_00032601 – 602 at 602.
[142] ARM_00032601 – 602 at 602.

55. Arm responded to Qualcomm's January 27, 2021 letter on February 2, 2021, congratulating Qualcomm on the news of the acquisition and indicating that it would [redacted][145]

56. Qualcomm responded on February 3, 2021.[146] [redacted][149]

[143] ARM_00048483 – 484 at 484.
[144] ARM_00048483 – 484 at 484.
[145] ARM_00048483 – 484 at 484.
[146] ARM_00032623 – 625.
[147] ARM_00032623 – 625 at 624.
[148] ARM_00032623 – 625 at 624.
[149] ARM_00032623 – 625 at 624.

57. [redacted]

58. On March 15, 2021, Qualcomm completed the acquisition of Nuvia, and stated it would be transitioned into the QCT branch of the company.[151] Nuvia was purchased for approximately $1.3 billion.[152] Qualcomm reported, "Qualcomm Technologies expects to integrate next generation CPUs across a wide portfolio of products, including powering flagship smartphones, laptops, and digital cockpits, as well as Advanced Driver Assistance Systems, extended reality, and infrastructure networking solutions.[153] The purchase price allocation included tangible assets, intangible assets, and liabilities.[154]

59. For over a year, Arm and Qualcomm engaged in negotiations to try to resolve their dispute and reach an agreement regarding Qualcomm's ability to continue to develop Nuvia-based Cores.[155] I understand that those discussions did not ultimately result in an agreement.[156]

60. [redacted]

[150] ARM_00032605 – 606 at 606.
[151] https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia.
[152] Qualcomm Inc. Form 10-K for the fiscal year ended September 26, 2021, p. F-30.
[153] https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia.
[154] Qualcomm Inc. Form 10-K for the fiscal year ended September 26, 2021, p. F-30.
[155] See, *e.g.*, ARM_01215343 – 544; ARM_01309668 – 669; ARM_00032604; ARM_01305515; ARM_00000003; ARM_00000019 – 021; ARM_00087288 – 289; ARM_01215409.
[156] Deposition of Simon Segars, November 16, 2023, p. 72; Deposition of Rene Haas, December 12, 2023, pp. 163 – 164.
[157] QCARM_0338883; QCARM_2429057.

[redacted]

61. [redacted]

62. [redacted]

[158] QCARM_0338883.
[159] QCARM_0338883.
[160] QCARM_2426822 - 836 at 833.
[161] QCARM_3337797; QCARM_0557206; QCARM_3059661.
[162] QCARM_3434164.
[163] In addition, in April 2022, [redacted] (*e.g.*, QCARM_3965325 – 326).
[164] ARM_01305479 – 480 at 480.

Figure 8: [redacted][165]

63. [redacted]

64. [redacted]

[165] ARM_01305479 – 480 at 480.
[166] QCARM_2429057.
[167] QCARM_2429057.
[168] QCARM_3059661.
[169] ARM_01238999 – 9003; *see also* ARM_01215997 – 6001 at 997 [redacted] QCARM_2417783 [redacted]

[redacted] In this report, I use "Nuvia-based Cores" to refer [redacted] I am informed and understand that Snapdragon X Elite has been described as [redacted] and therefore would be a Nuvia-based Core.[172] I understand that Defendants are developing other products that fit the definition of Nuvia-based Cores. [redacted].[173]

65. [redacted]

[170] *See, e.g.*, Arm Ltd.'s Second Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1 and 6), November 17, 2023, pp. 4, 11 – 12, and 43 – 46; Arm Ltd.'s Supplemental Objections and Responses to Qualcomm's Third Set of Interrogatories (No. 20), November 17, 2023, pp. 5 and 11 – 12.

[171] Correspondence dated 10/26/2023, email from J. Braly to J. Li; Deposition of Mike Roberts, November 28, 2023, pp. 35 – 37.

[172] https://www.forbes.com/sites/jonmarkman/2023/12/05/qualcomms-x-elite-crushes-apple-arm-holdings-stocks-surge/?sh=5f330d9e7d04; *see also* https://www.pcmag.com/news/qualcomm-snapdragon-x-elite-oryon-chip-tests.

[173] *See, e.g.*, Deposition of Jignesh Trivedi, October 25, 2023, pp. 83 – 90 [redacted] Deposition of Manu Gulati, October 12, 2023, pp. 63 – 64 [redacted] and 208 [redacted]; Deposition of Gerard Williams, November 11, 2023, pp. 243 – 245 [redacted], and 246 – 247 [redacted]

[174] ARM_01241187.

[175] ARM_01241187.

[redacted]

66. [redacted]

67. Notwithstanding Arm's correspondence with Qualcomm, Arm alleges [redacted] For example, in June 2022, Qualcomm said that its Nuvia chips will soon join the industry-wide "ecosystem transition to Arm" and that by "late next year, beginning 2024, you're going to see Windows PCs powered by Snapdragon

[176] ARM_01241187.
[177] ARM_00045393.
[178] ARM_00045393.
[179] Arm Ltd.'s Second Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1 – 11), November 17, 2023, pp. 27 – 28 *see* Defendants' Answer and Defenses to Plaintiff's Complaint and Jury Demand and Defendants' Amended Counterclaim, October 26, 2022, pp. 10 and 80.

with a Nuvia-designed CPU."[180] Moreover, in November 2022, Qualcomm made clear that "the creation of our custom CPU was started by Nuvia engineers while employed at Nuvia."[181]

68. Based on Qualcomm's continued use of the Nuvia-based Cores (including the [redacted]), Arm filed this litigation.[182] Arm asserts that despite Nuvia's and Qualcomm's certifications, Defendants continued to use and develop Arm-based Technology developed under the Nuvia license agreements, including Nuvia-based Cores.[183]

VII. DAMAGES INADEQUATE TO COMPENSATE FOR HARM

A. Summary

69. In my opinion, if Defendants are found liable for breach of the Nuvia ALA but are not ordered to discontinue the use and distribution of Arm Technology, Arm Confidential Information, and any products embodying such technology or information (including Nuvia-based Cores), then monetary damages are not adequate to compensate Arm for the harm (including future harm) caused by Defendants' breach of the Nuvia ALA. In my opinion, the monetary damages associated with the harm to Arm (including future harm) caused by Defendants' breach of the Nuvia ALA cannot be determined with reasonable certainty.

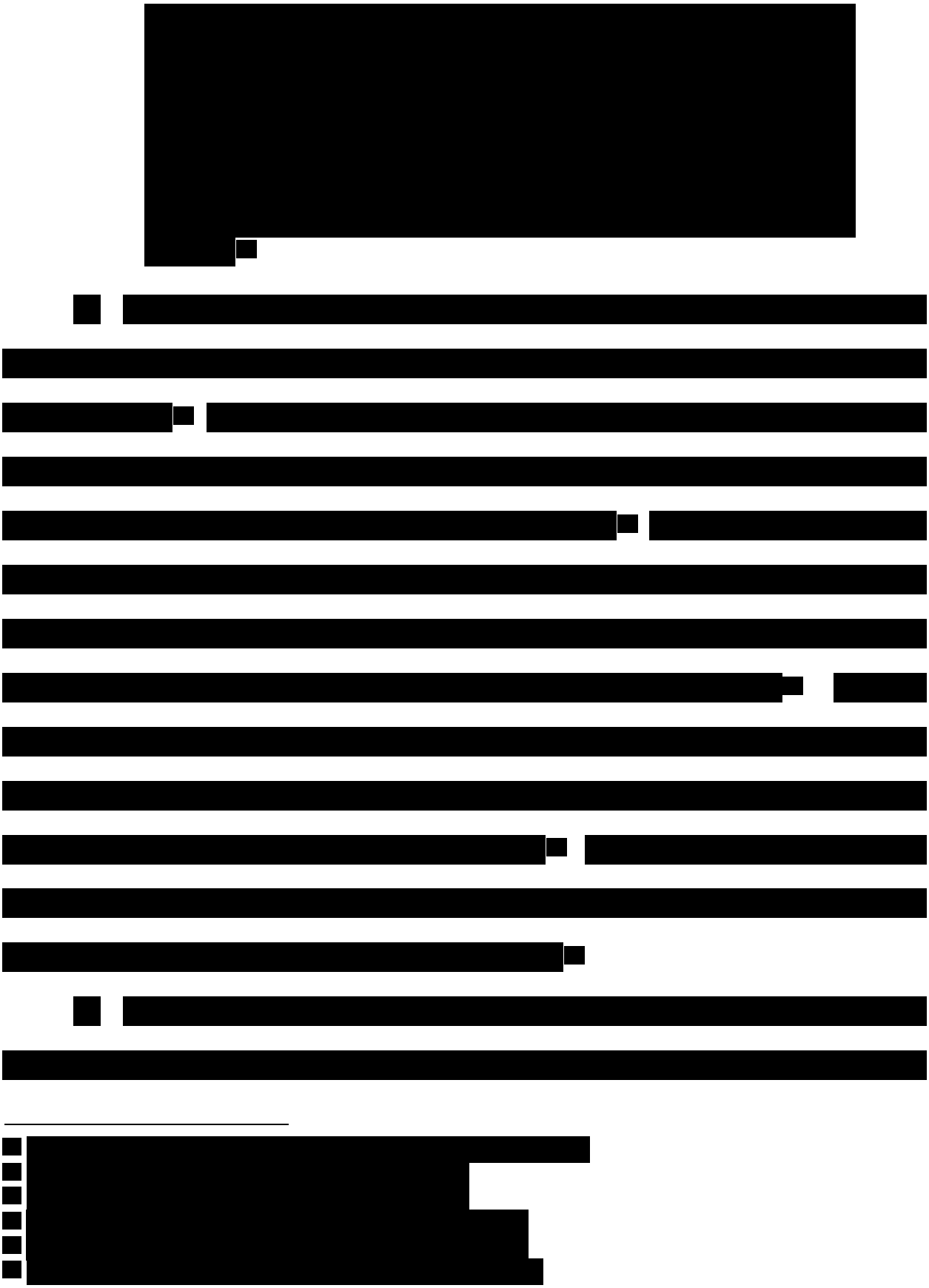
70. I have considered the harms that Defendants' breach of the Nuvia ALA may cause to Arm, based on my discussions with Arm employees and review of the record, and described those harms below. As further described below, those harms to Arm include: (A) a significant disruption to Arm's licensing ecosystem, (B) a significant negative impact on Arm's first mover

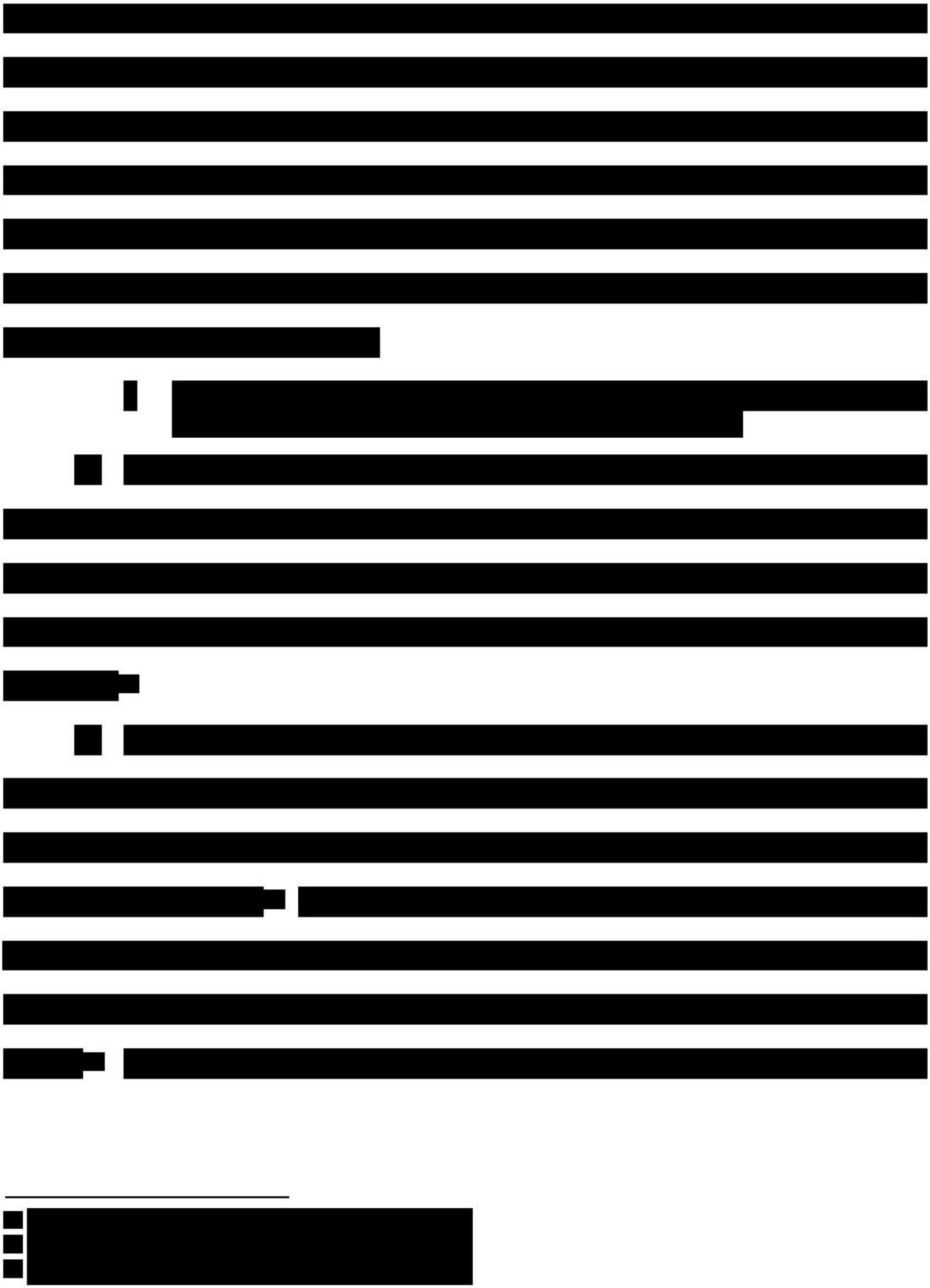
[180] Complaint, August 31, 2022, p. 14 (citing *Qualcomm CEO on What He Really Thinks of Apple*, The Daily Charge (June 9, 2022), https://podcasts.apple.com/us/podcast/qualcomm-ceo-on-what-he-really-thinks-of-apple/id1091374076?i=1000565773375).
[181] Mark Hachman, *Qualcomm dubs Nuvia CPU 'Oryon,' on track for 2023*, PCWorld (Nov. 17, 2022), https://www.pcworld.com/article/1382740/qualcomm-dubs-nuvia-cpu-oryon-on-track-for-2023.html.
[182] Complaint, August 31, 2022.
[183] Complaint, August 31, 2022, pp. 13 – 15.

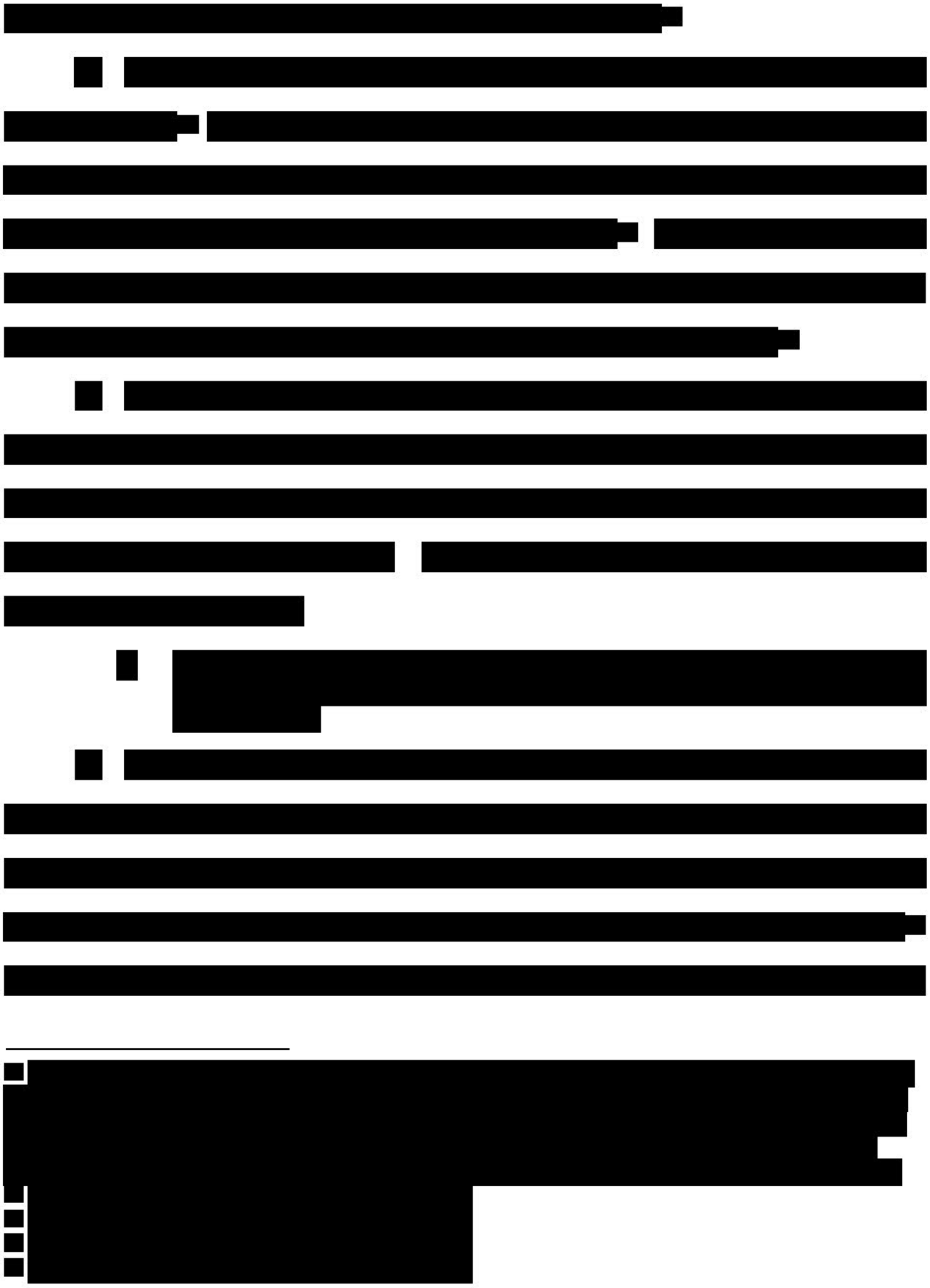
advantage, (C) harm to Arm's expansion into new segments and markets, (D) a significant decrease in licensing revenue and investment in research and development, and (E) a significant decrease in Arm's reputation and goodwill. Moreover, these harms are exacerbated by several additional factors. As set forth below, monetary damages cannot adequately compensate for any of these harms (individually or collectively). Further, the damages associated with these harms (individually and collectively) cannot be determined with reasonable certainty. I address these harms in turn below.

[redacted]

[redacted]







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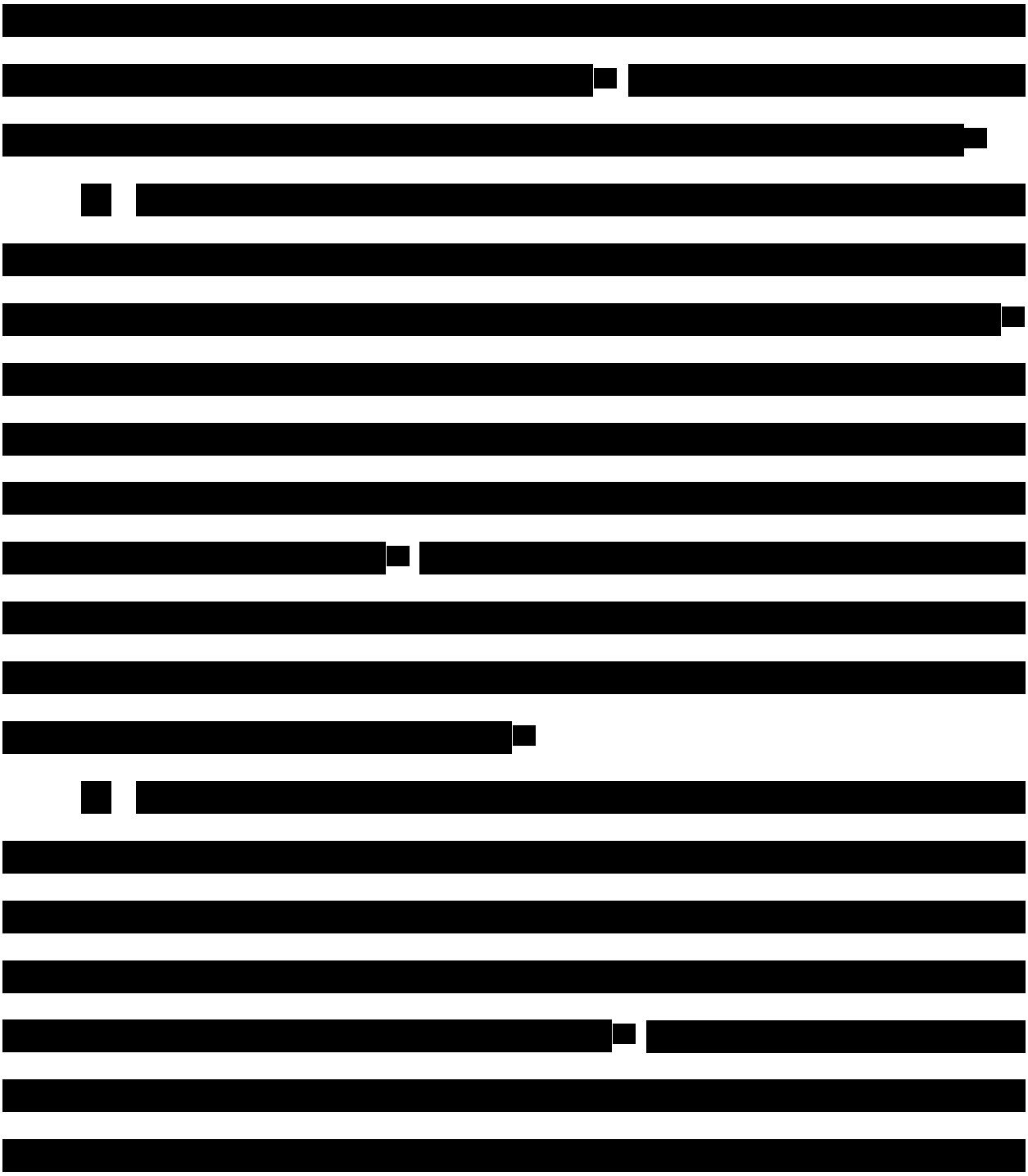

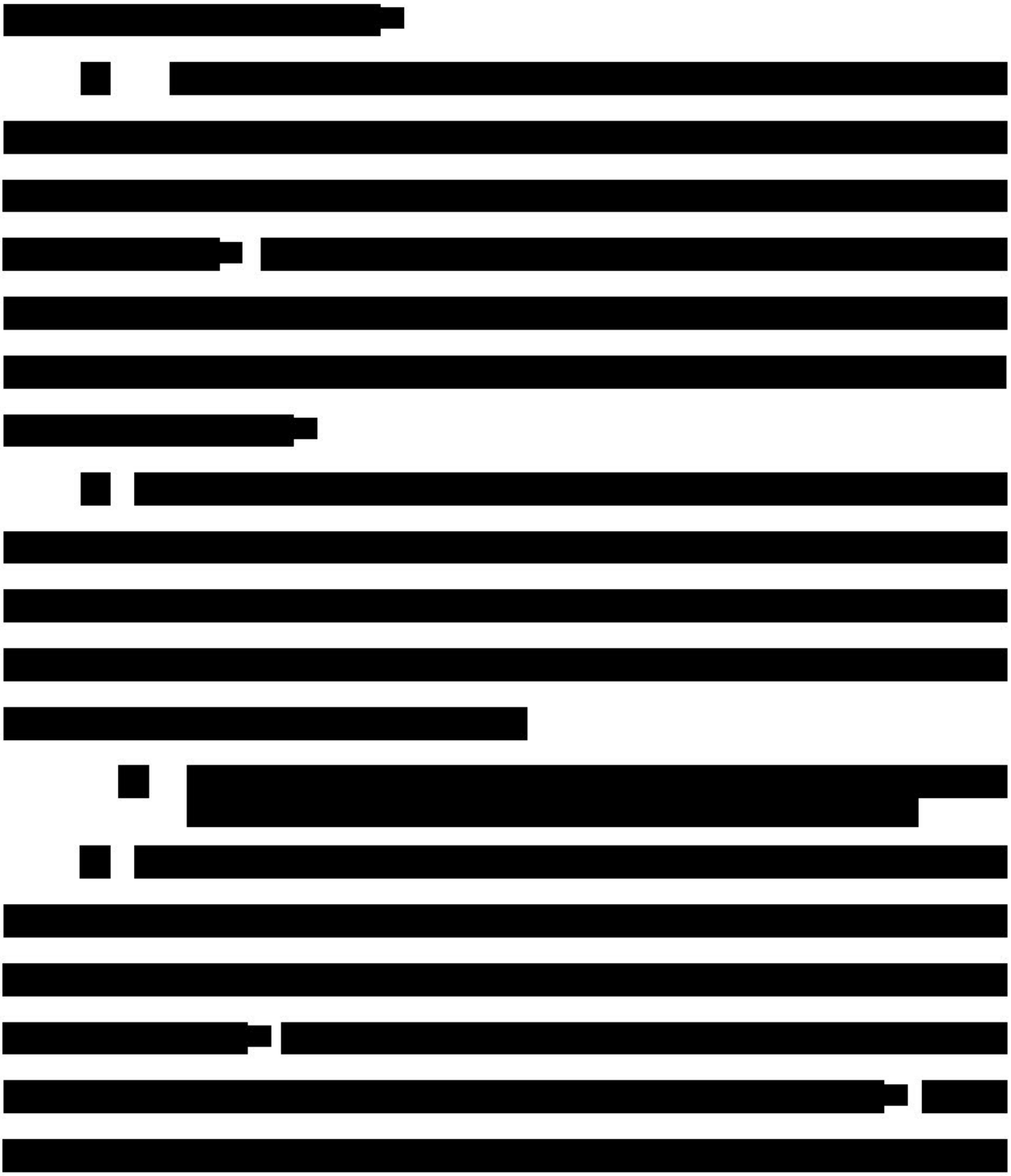

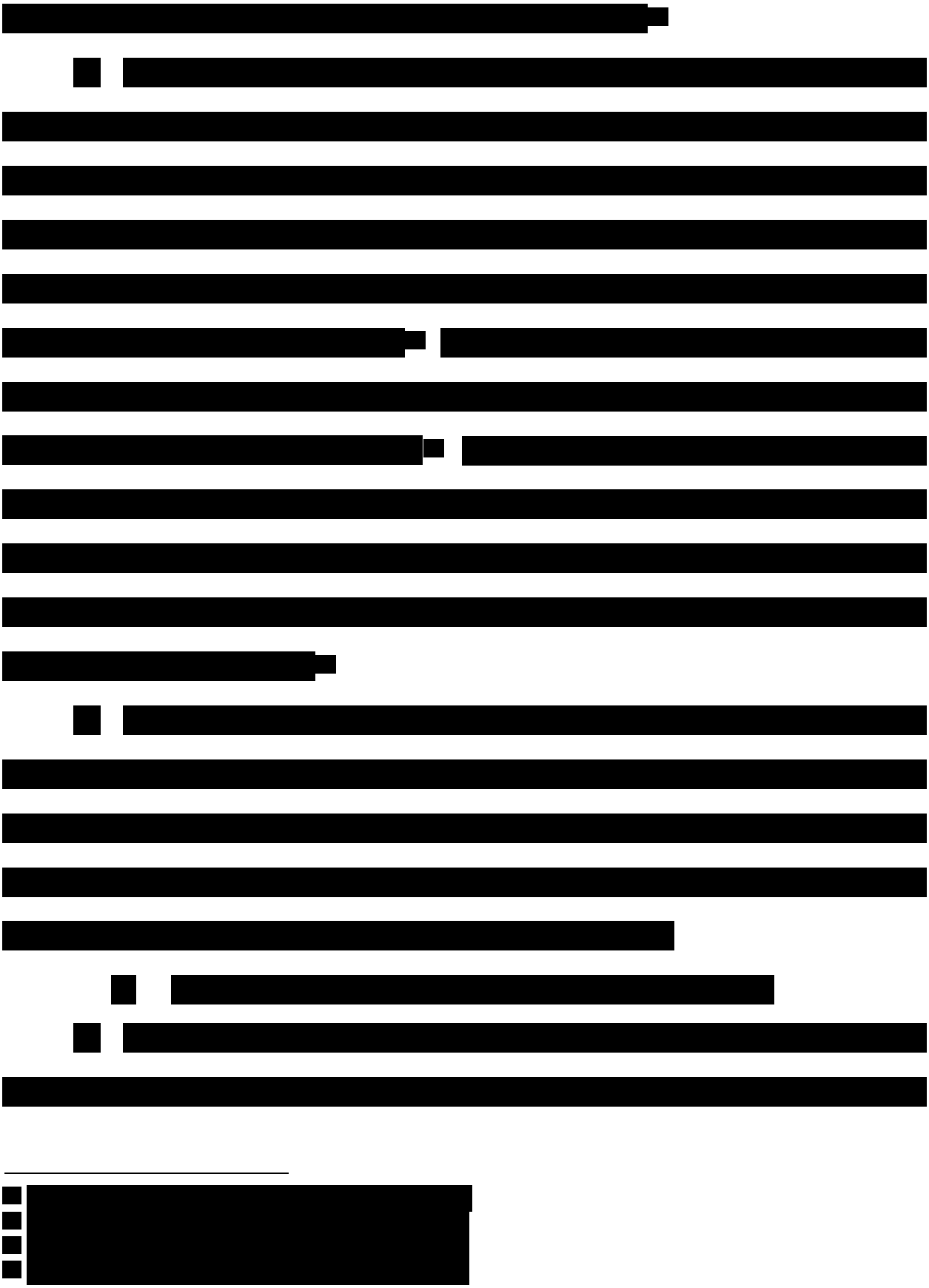

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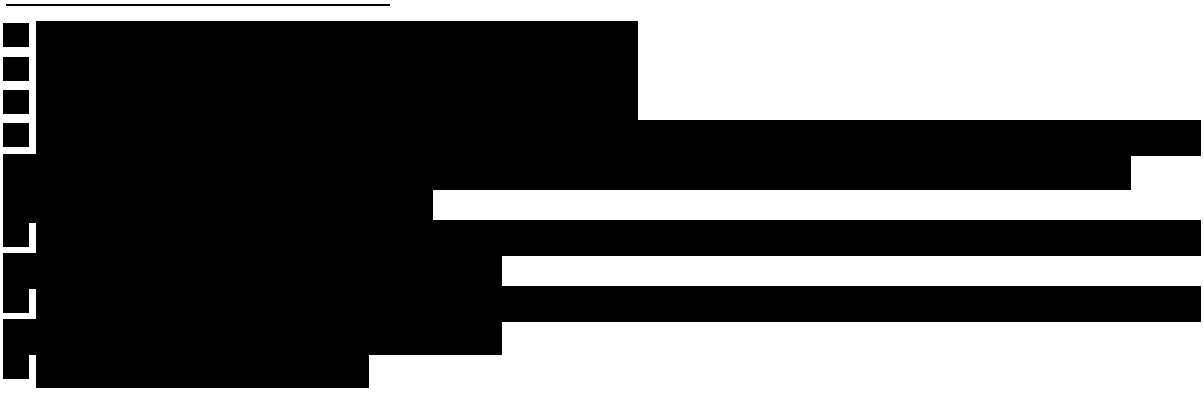

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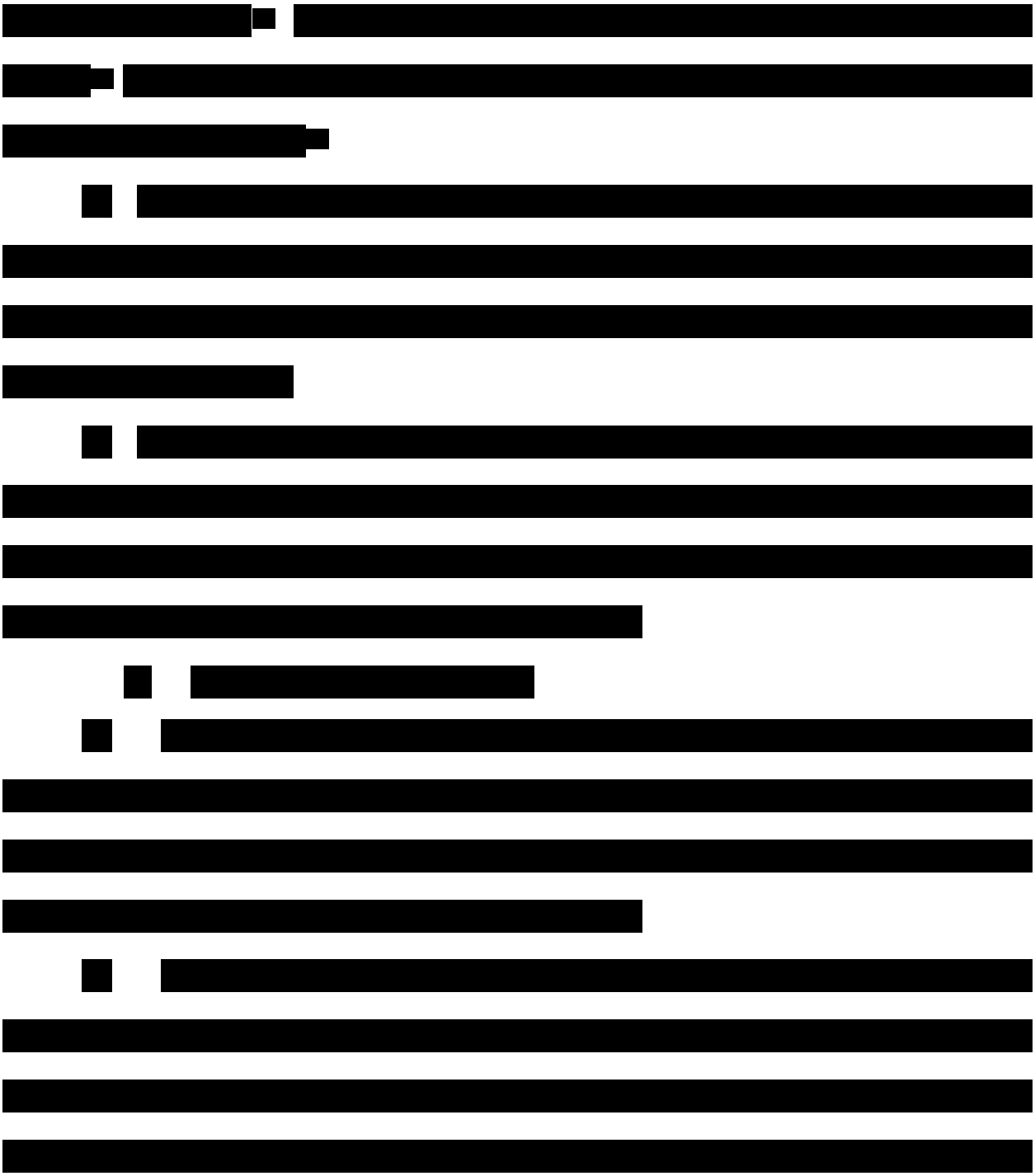

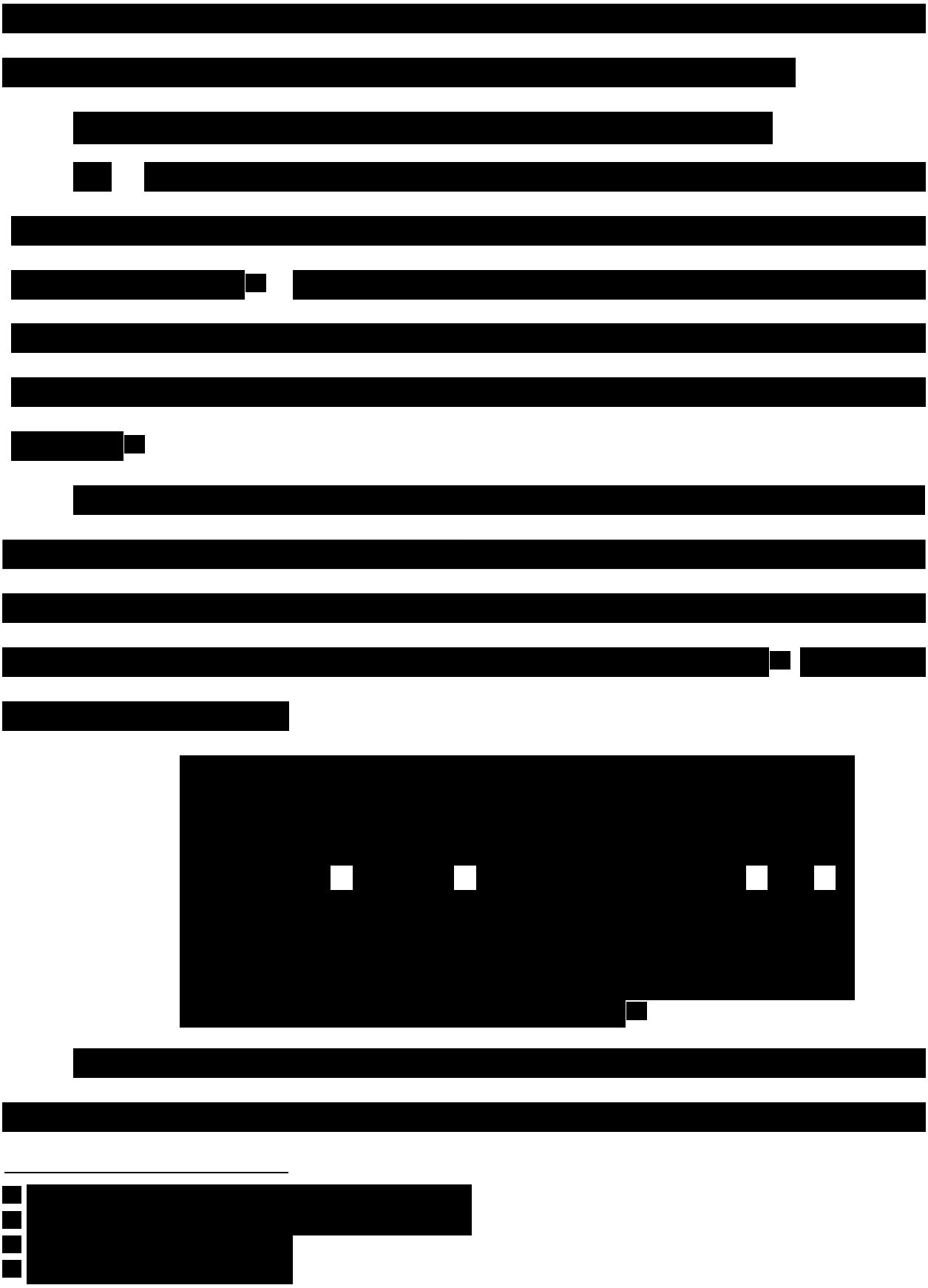

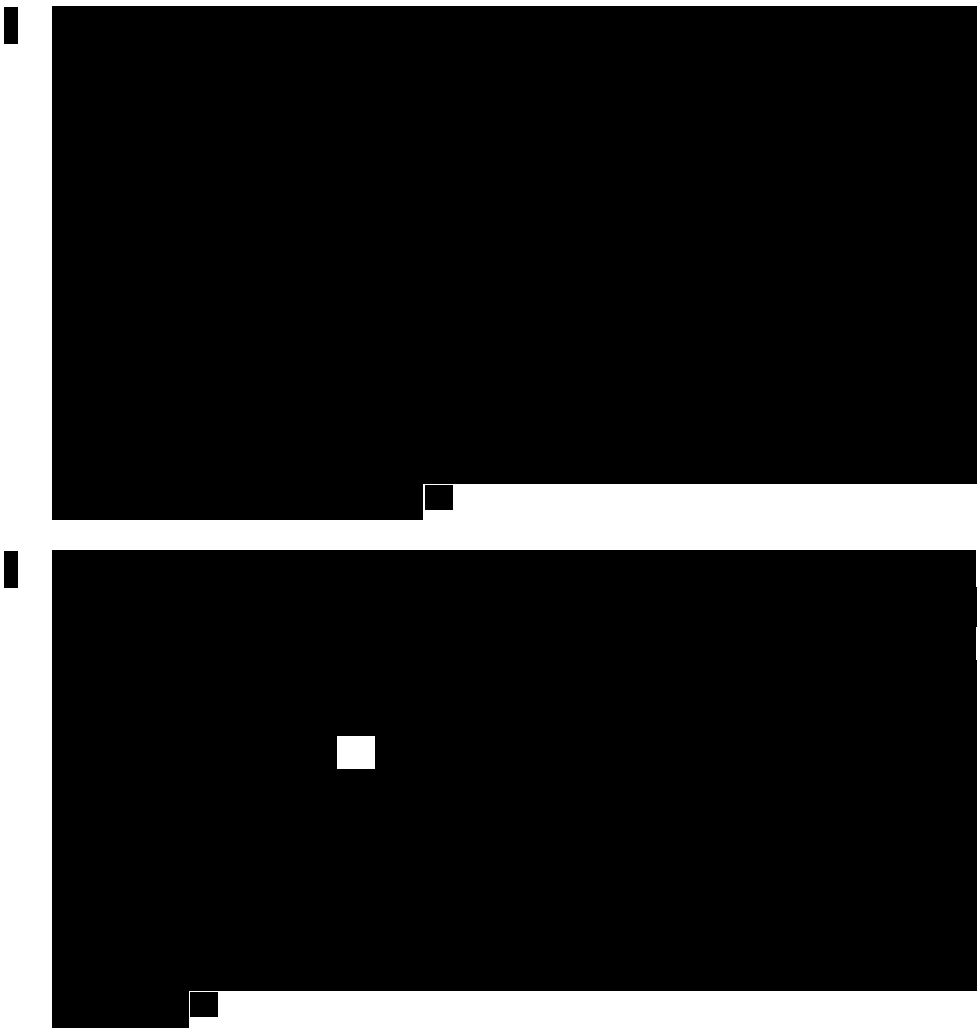

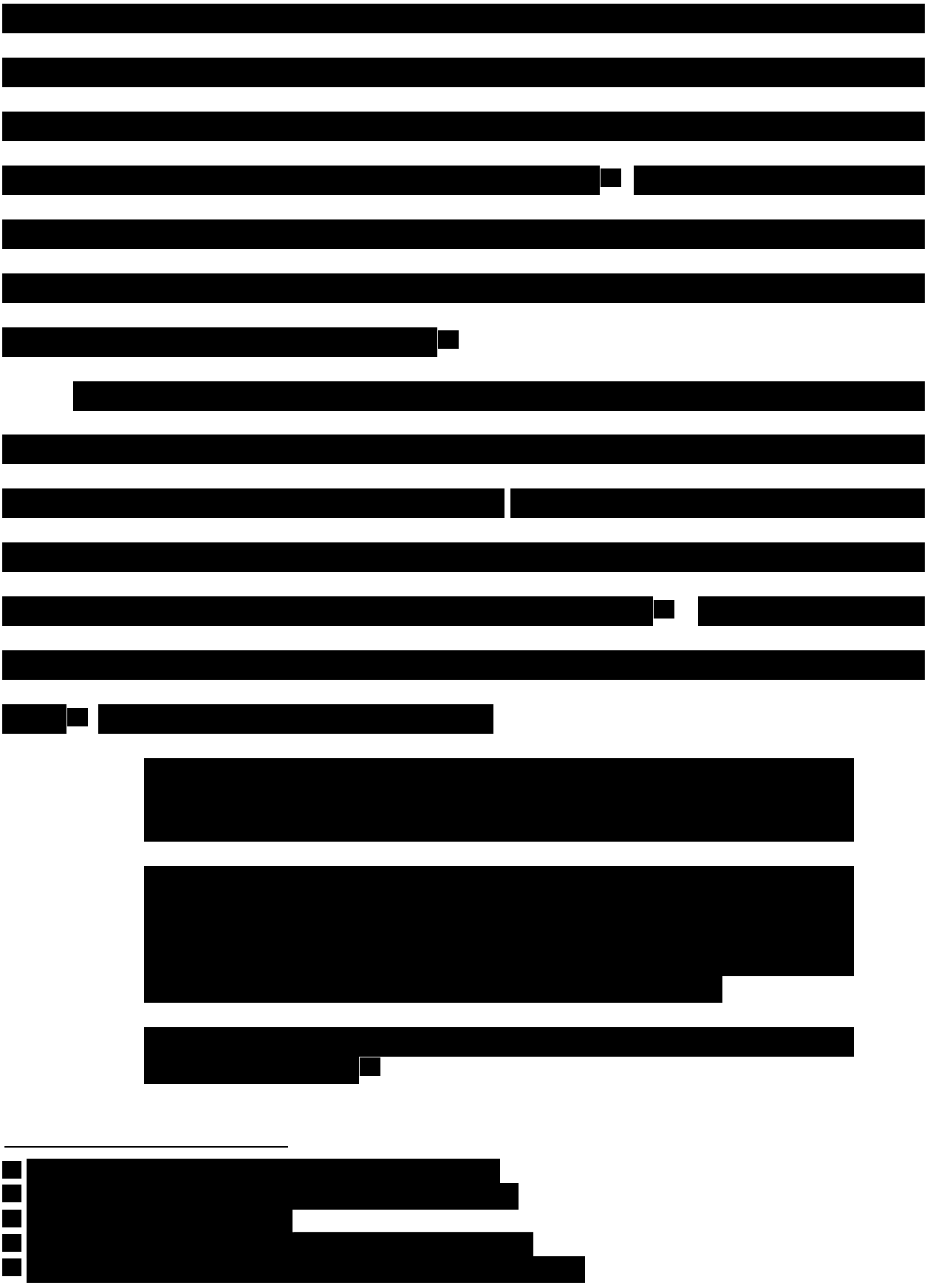

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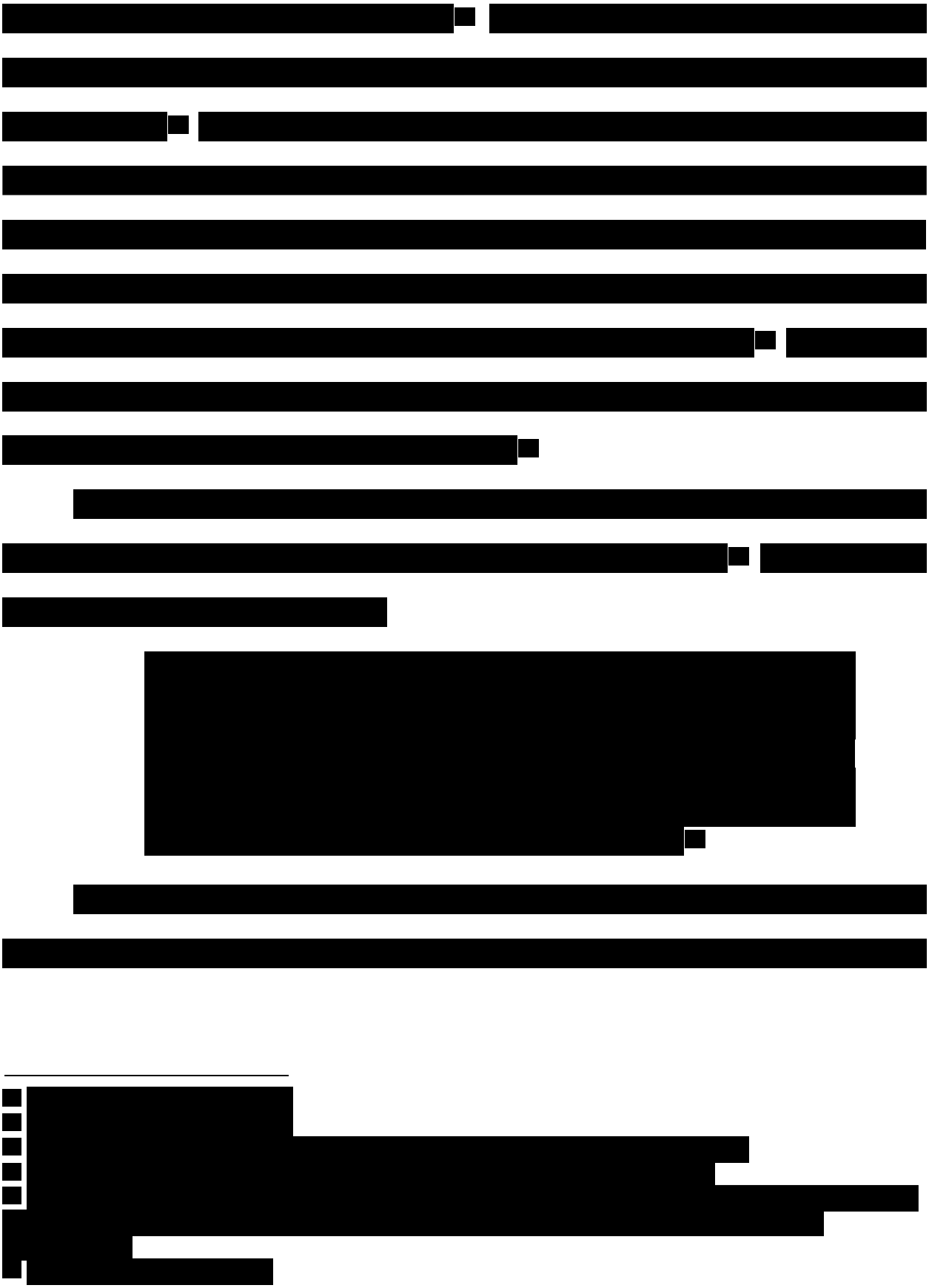

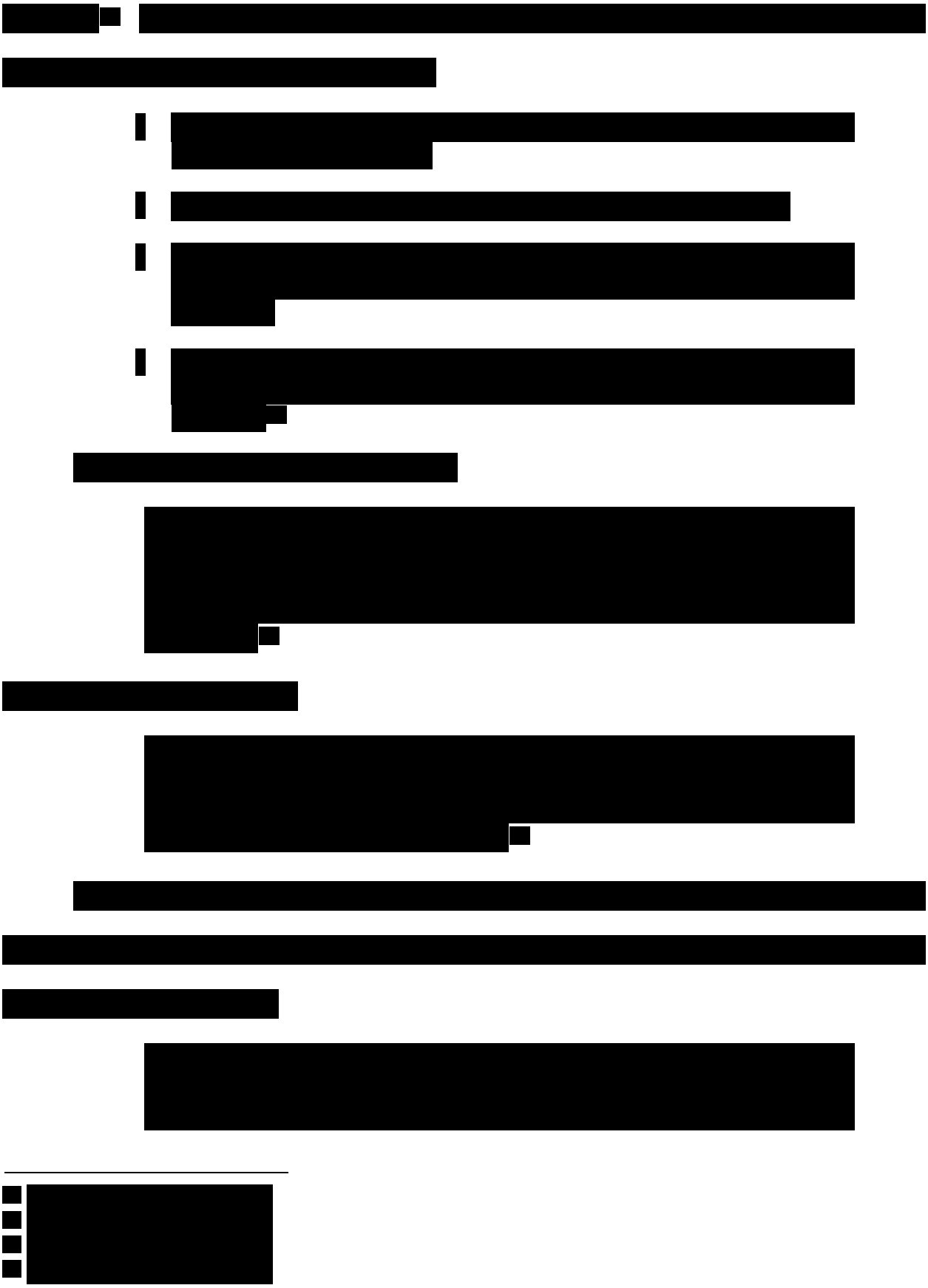

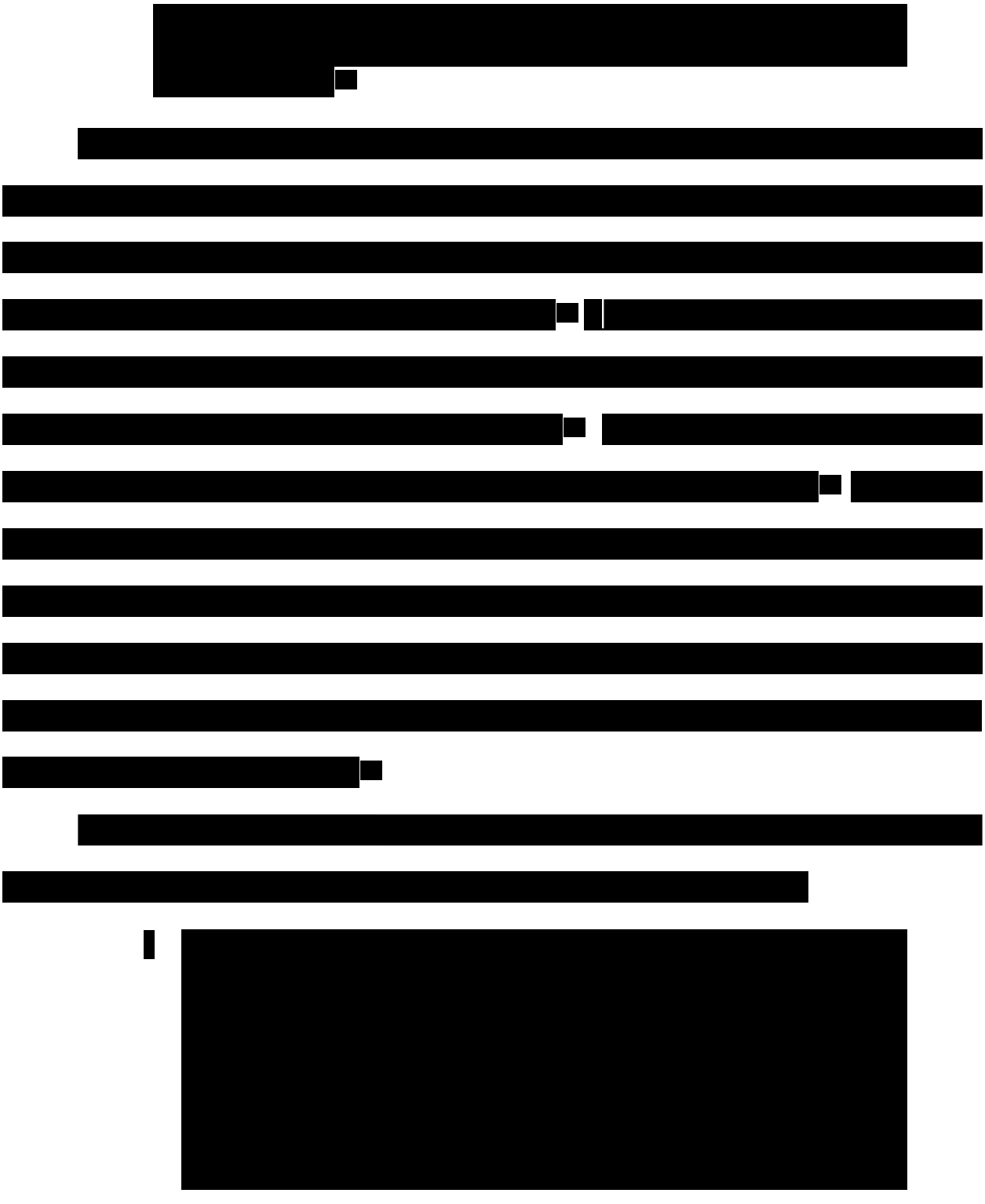

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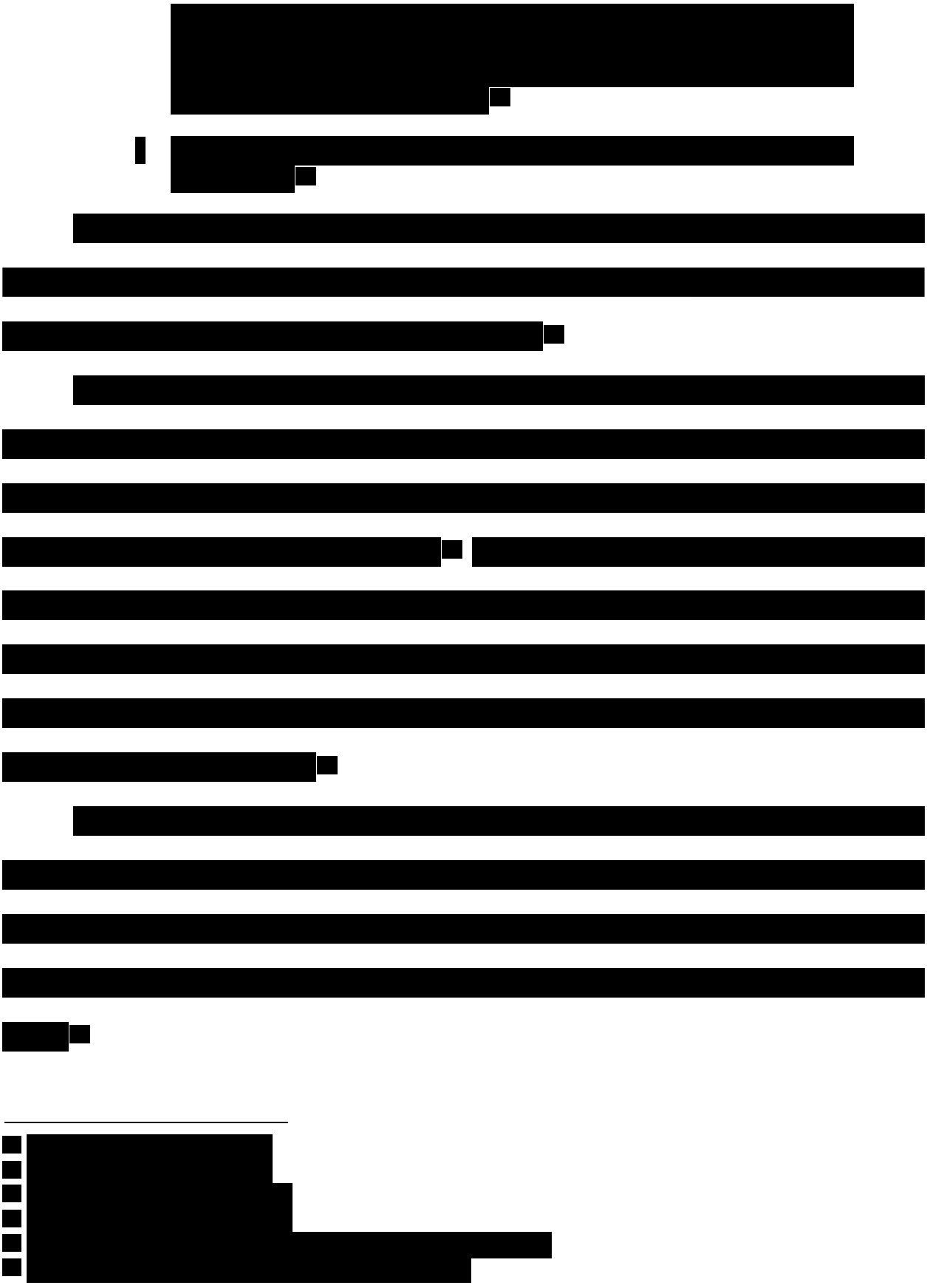

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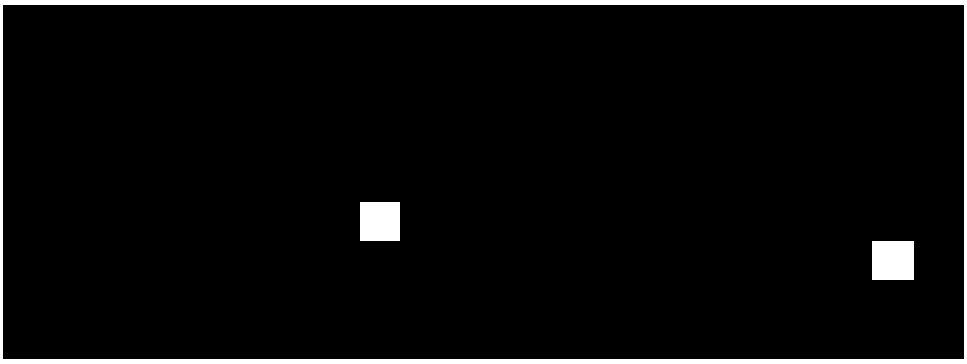

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G. Inadequacy of Damages Exacerbated by Several Additional Factors

137. Several additional factors in this case exacerbate the potential harms to Arm, and the uncertainty of monetary damages adequate to compensate for those harms, if Defendants are found liable for breaching the Nuvia ALA but are not required to discontinue use and distribution of Arm Technology, Arm Confidential Information, and any products embodying such technology or information (including Nuvia-based Cores).

138. For example, not only is Qualcomm a long-term Arm licensee, it is also one of Arm's largest licensees by revenue.[331] Qualcomm made up 11% of Arm's total revenue for the fiscal year ended March 30, 2023.[332] Given the magnitude of Qualcomm's contribution to Arm's financial performance (as well as Qualcomm's overall status in the industry), Qualcomm's

[redacted]

[331] Deposition of Rene Haas, December 12, 2023, p. 107.
[332] ARM_01259705 – 0105 at 9754; *See also* Deposition of Simon Segars, November 16, 2023, pp. 10 – 13.

alleged actions would have an outsized impact on Arm. To the extent Qualcomm is permitted to use the Nuvia-based Cores developed under the Nuvia ALA, other industry participants (and Arm licensees) may be emboldened given Qualcomm's size as an Arm licensee and recognition as an industry leader.

139. Another exacerbating factor is the relative speed with which the CPU industry develops. Emerging technologies develop rapidly and may not be foreseen.[333] Arm asserts that it is "continuously evaluating emerging markets and technologies that may enable [it] to create more advanced products that bring more value to [it]s customers and ecosystem."[334] For example, Arm states that it is "leading the way in integrating AI and ML capabilities across all devices through [its] highly scalable architecture. All modern smartphones are AI and ML capable by virtue of their Arm processors, and we are increasingly working with companies in other markets, such as consumer electronics and automotive, to deploy AI-based solutions."[335] However, Arm has stated that "[i]f it fail[s] to develop new products in response to, or in anticipation of, rapid technological changes in [its] industry or the industries [it] serve[s], [its] business may be materially and adversely affected."[336] Further, Arm has indicated that both known and unknown rapid technological changes make "the future market for [its] products [] difficult to predict."[337] Given the rapidly evolving landscape of electronics (which cannot be fully anticipated), the total harm to Arm is unpredictable. For example, as previously discussed, Arm gained a first mover advantage in the mobile CPU segment, but Arm's ability to leverage this advantage to emerging markets could be in jeopardy due to Qualcomm's and Nuvia's alleged

[333] Discussions with Will Abbey and Paul Williamson.
[334] ARM_01259705 – 0105 at 9722
[335] ARM_01259705 – 0105 at 9722.
[336] ARM_01259705 – 0105 at 9724.
[337] ARM_01259705 – 0105 at 9739.

actions. This sort of impact is amplified by the so-called "Butterfly Effect."[338] In other words, future triggering events could magnify the potential impacts of Qualcomm's and Nuvia's alleged actions (discussed previously in this report) and may set into motion events that may be different (potentially significant) in the "but for" scenario in which Qualcomm and Nuvia act within the bounds of its agreements as sought by Arm. For example, an event in the server market that significantly increases demand of server CPUs would have an even larger impact on Arm given Arm's small market presence in that space and its delayed development of the segment due to Nuvia's shift away from developing what was a promising alternative to x86-based processors. Or in another example, a decrease in Arm's R&D activities (as previously discussed) could result in its inability to capitalize on currently unforeseen CPU applications.

140. The uncertainty of the harms discussed in this report are particularly acute given that they involve the actions of parties (*i.e.*, current and prospective licensees), unknown emerging market segments, among other uncertainties. Such factors include but are not limited to the following.

- The ability to quantify the number prospective licensees and related revenue is not ascertainable.
- The difficulty in measuring the financial impact of actions that current and prospective licensees may take based on the decisions of other licensees.
- The ability to measure the goodwill and reputational harm due to Qualcomm's and Nuvia's alleged actions would be difficult.
- The uniqueness of Qualcomm as a market leader (and one of Arm's largest customers) which would have an outsize impact on its alleged breach.
- The value of Arm's first mover advantage in emerging markets and the magnitude of the loss is difficult to measure.

[338] https://www.forbes.com/sites/startswithabang/2018/02/13/chaos-theory-the-butterfly-effect-and-the-computer-glitch-that-started-it-all/?sh=4b460bee69f6; https://hbr.org/2022/08/in-uncertain-times-the-best-strategy-is-adaptability.

- The loss of revenue from the factors discussed in this report would have an unpredictable impact on Arm's total financial condition and market presence.

VIII. TRADEMARK INFRINGEMENT

141. I am informed and understand that Arm seeks a declaratory judgment that Defendants unlicensed use of Arm's trademarks will constitute trademark infringement.[339] I am informed and understand that Arm is not aware of any trademark infringements by Defendants to date.[340] I may be asked to opine on potential damages associated with trademark infringement if any such infringement is alleged to have occurred before trial of this matter. I reserve my right to do so.

IX. OTHER ISSUES

142. This report represents my analysis, opinions, and conclusions at this time and is based on information available to me as of the date above. The citations listed in this report are illustrative, and as part of my analysis, I also considered the additional documents and other information listed on Schedule 2. If additional information or testimony becomes available to me, I may revise or supplement my analysis, opinions, and conclusions, and I may modify or supplement my report as necessary. I may testify at trial regarding any related matter raised by the parties after the date of this report if asked to do so by the Court or the parties' attorneys. I may be asked to develop additional schedules or exhibits for trial purposes related to my analysis, opinions, and conclusions. I may also be asked to develop and rely on demonstratives at trial or any pre-trial proceeding. I may also be asked to develop additional schedules or exhibits if asked to do so by the Court or the parties' attorneys, post-trial. This report is intended solely for use in

[339] Complaint, August 31, 2022, pp. 18 – 22.
[340] Arm Ltd.'s Second Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories Nos. 1 – 11, November 17, 2023, pp. 17 – 26.

the above-referenced litigation and is not to be used for any other purpose.

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Schedule 1

W. Todd Schoettelkotte, CPA, CVA

Senior Managing Director

333 Clay Street, Suite 3960
Houston, Texas 77002
713-335-5455 | tschoettelkotte@jsheld.com

Certifications
Certified Public Accountant, Texas
Certified Valuation Analyst

Professional Affiliations
State Bar of Texas' Grievance Committee, Committee Member, 2004 – 2009

Federal Bar Association, South Texas Chapter, Treasurer, 2007 – 2015

Institution for Law and Technology Advisory Board Member

Associations
American Institute of Certified Public Accountants

Texas Society of Certified Public Accountants

Licensing Executives Society

National Association of Certified Valuators and Analysts

Education
Master of Accounting
Rice University, Houston, TX

BS Management
Rice University, Houston, TX

W. Todd Schoettelkotte is a Senior Managing Director of Ocean Tomo, a part of J.S. Held LLC, a global consulting firm providing specialized technical, scientific, financial, and advisory services. Mr. Schoettelkotte has more than 25 years of experience in the evaluation and quantification of economic damages arising from patent, copyright and trademark infringement, and trade secret misappropriation disputes. His clients have included numerous Fortune 500 companies in a wide variety of industries including semiconductor, telecommunication, energy, consumer products, life sciences and computers (hardware, software and the internet). Mr. Schoettelkotte has been recognized by Intellectual Asset Management Magazine as one of the leading patent damages experts in the United States. Mr. Schoettelkotte's background is in accounting, finance and economics, and he has a specific, focused understanding of those issues integral to the valuation and management of intellectual property.

Intellectual Property Valuation

Mr. Schoettelkotte has directed numerous valuation projects related to patents, trademarks and trade secrets. A significant portion of his practice is focused on the determination of royalty rates and terms for licensing agreements. Additionally, Mr. Schoettelkotte has conducted numerous studies involving lost profits and unjust enrichment.

In the process of assisting clients in the valuation of intellectual property assets, Mr. Schoettelkotte has participated in the identification and review of business plans, market studies, financial documents and other related information.

Patent, Copyright and Trademark Infringement

Mr. Schoettelkotte has performed market analyses/studies wherein the patented, trademarked or copyrighted product is sold, assessed lost profits stemming from alleged infringements, evaluated the contribution of the patented process/method to the end product and established the economic value of the underlying intellectual property.

Mr. Schoettelkotte is skilled in the application of the Georgia-Pacific factors to the determination of reasonable royalty rates. He has determined reasonable royalty rates within infringement suits on many occasions in numerous industries. Over the course of his career, Mr. Schoettelkotte has reviewed hundreds of license agreements, providing a broad frame of reference for reasonable royalty damages analyses. Mr. Schoettelkotte has testified in federal and state court and arbitration proceedings on matters involving intellectual property valuation, lost profits, reasonable royalty and economic damages issues.

Articles and Presentations

"Intellectual Property Damages," Chicago-Kent College of Law, October 15, 2019

"Damages in Other Areas of Intellectual Property," The University of Arizona IP Conference, March 5, 2018

"Impact of Recent Court Cases on 'Real World' Royalty Rates," LES (USA & Canada) Houston Chapter, July 20, 2017

"What is Discoverable and Admissible for Damages, Willfulness and Other Purposes," Intellectual Property Owners Association, March 21, 2011

"Strategies in Intellectual Property," Chicago Kent, College of Law, Spring 2004 – 2010

Damages, Part II: "Litigation Strategies" – 15th Annual Advanced Patent Law Institute - University of Texas School of Law, October 28-29, 2010

"IP Damages and Valuation," Global Intellectual Property Management, Georgetown University Law Center, July 2, 2008

"Keys for Effectively Working with Your Damages Expert Throughout the Litigation Life Cycle," Houston Bar Association, March 22, 2007

"Advanced Evidence and Discovery – Working With Experts From Start To Finish" – Texas Bar Association, April-May 2006

"Trademarks – Financial Disclosure and Corporate Governance" – International Trademark Association, Emerging Issues in Trademark Law Forum, February 2-3, 2006

"Valuation of IP – A Licensing Perspective" – Lighthouse Seminar Group, IP Licensing Nuts & Bolts, March 3, 2005

"Measuring the Value of Damages in Trademark Infringement Claims" – DuPont's 18th Annual CLE Intellectual Property Law Seminar, October 12, 2004

"Measuring the Value of Damages in Patent and Trademark Claims" – Houston CPA Society, September 2004

"Measuring Damages in Trademark Infringement and Related Claims in Light of Recent Court Decisions" – The 19th Annual Intellectual Property Law Conference – American Bar Association, April 1, 2004

"Intellectual Property Damages: Patents & Trademarks" – Houston CPA Society "Litigation and Valuation Services Committee," January 28, 2004

Co-Author: "Accounting for Attorneys" – University of Oregon School of Law, November 12, 2003

"What are the Financial Stakes in Litigation? What are the Costs and the Return on Investment (ROI) That Can Be Expected? The Question of Intangible Returns?" – 2003 Fourth International Conference on Intellectual Property by CNCPI, October 7, 2003, Paris, France

"Current Issues in the Analysis of Reasonable Royalties in Patent Infringement Actions" – 2003 Licensing Executives Society Annual Meeting, September 24, 2003

Co-Author FTI Consulting Training Course: "Calculating Damages in Patent Infringement – A Lost Profits and Reasonable Royalty Case Study," July 17, 2003

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W. Todd Schoettelkotte
Four Year List of Testimony
As of December 2023

CASE DESCRIPTION / TYPE OF TESTIMONY
In the Matter of Certain Semiconductor Devices, and Methods of Manufacturing Same and Products Containing the Same (Respondents-Innoscience); U.S. International Trade Commission, Washington, D.C., Expert Report, Deposition
Demaray LLC v. Samsung Electronics Co. Ltd., et al.: U.S. District Court, Western District of Texas (Waco), Rebuttal Expert Report, Deposition, Supplemental Report, Deposition
Persawvere, Inc. v. Milwaukee Electric Tool, Corporation; U.S. District Court, District of Delaware (Wilmington), Rebuttal Expert Report, Deposition, Trial
Beacon Navigation GmbH v. Bayerische Motoren Werke AG; BMW of North America, LLC and BMW Manufacturing Co., LLC; U.S. District Court, Southern District of Michigan, Expert Report, Deposition
Ningde Amperex Technology Limited v. Zhuhai CosMX Battery Co., Ltd., et al.; U.S. District Court, Eastern District of Texas (Marshall), Initial Report, Rebuttal Expert Report, Deposition
Plastipak Packaging, Inc. v. Nestlé Waters North America, Inc.; U.S. District Court, Eastern District of Virginia (Alexandria), Opening Expert Report, Rebuttal Expert Report, Supplemental Expert Report, Supplemental Rebuttal Expert Report, Deposition
Ollnova Technologies Limited v. ecobee Technologies, ULC d/b/a Ecobee; U.S. District Court, Eastern District of Texas (Marshall), Rebuttal Expert Report, Deposition, Trial
EIS, Inc. v. IntiHealth GER GmbH, et al.; U.S. District Court, District of Delaware, Expert Report, Rebuttal Expert Report, Commercial Success Report, Reply Report, Trial
HID Global Corporation v. Vector Flow., et al.; U.S. District Court, District of Delaware (Wilmington), Expert Report, Reply Report, Deposition
BlueRadios, Inc. v. Kopin Corporation, Inc.; U.S. District Court, District of Colorado (Denver), Rebuttal Expert Report, Deposition, Supplemental Rebuttal Expert Report, Deposition
Bay Materials, LLC v. 3M Company; U.S. District Court, District of Delaware (Wilmington), Declaration, Deposition, Commercial Success Report, Deposition
Continuous Composites, Inc. v. Markforged, Inc.; U.S. District Court, District of Delaware, Expert Report, Reply Report, Deposition
Fate Therapeutics, Inc., et al. v. Shoreline Biosciences, Inc., et al.; U.S. District Court, Southern District of California (San Diego), Rebuttal Expert Report, Deposition
Delta Air Lines, Inc. v. Marriott International, Inc.; U.S. District Court, Northern District of Georgia (Atlanta), Rebuttal Expert Report, Supplemental Rebuttal Report, Deposition

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CASE DESCRIPTION / TYPE OF TESTIMONY
Textron Innovations Inc. v. SZ DJI Technology Co., Ltd., et al.; U.S. District Court, Western District of Texas (Waco), Expert Report, Deposition, Supplemental Expert Report, Trial
VoIP-Pal.com, Inc. v. Verizon Communications Inc., et al.; U.S. District Court, Western District of Texas (Waco), Rebuttal Expert Report, Deposition
Ragnarok Game, LLC and ESDFOS, LLC v. ZeniMax Media Inc, et al.; Superior Court of the State of California, County of Los Angeles, Central District, Opening Expert Report, Rebuttal Expert Report, Deposition
DivX, LLC v. Harman International Industries, Inc.; New York Supreme Court, New York County, Expert Report, Rebuttal Expert Report, Deposition
Shimon Maimon v. Lockheed Martin Corporation; Judicial Arbitration and Mediation Services, Rebuttal Expert Report, Deposition, Arbitration
WSOU Investments, LLC d/b/a Brazos Licensing and Development v. ZTE Corporation; U.S. District Court, Western District of Texas (Waco), Rebuttal Expert Report, Deposition
Wonderland Switzerland AG v. Evenflo Company, Inc.; U.S. District Court, District of Delaware (Wilmington), Expert Report, Reply Report, Deposition, Supplemental Expert Report, Trial
NNCrystal US Corporation and The Board of Trustees of The University of Arkansas v. Nanosys, Inc.; U.S. District Court, District of Delaware, Expert Report, Reply Report, Deposition
Pavemetrics Systems, Inc. v. Tetra Tech, Inc. and Tetra Tech Tas Inc.; U.S. District Court, Central District of California (Los Angeles), Expert Report, Deposition, Trial
Global Tubing, LLC v. Tenaris Coiled Tubes, LLC and Tenaris, S.A.; U.S. District Court, Southern District of Texas (Houston), Expert Report, Deposition
The Cookie Department, Inc. v. The Hershey Company, One Brands, LLC; U.S. District Court, Northern District of California (Oakland), Rebuttal Expert Report, Deposition
Unirac, Inc. v. EcoFasten Solar, LLC and Esdec, Inc.; U.S. District Court, District of Delaware, Expert Reports, Deposition
In the Matter of Certain Integrated Circuits, Chipsets, and Electronic Devices, and Products Containing the Same (Respondents); U.S. International Trade Commission, Washington, D.C., Rebuttal Expert Report, Deposition

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CASE DESCRIPTION / TYPE OF TESTIMONY
In the Matter of Certain High-Density Fiber Optic Equipment and Components Thereof (Complainant); U.S. International Trade Commission, Washington, D.C., Expert Report, Deposition, Witness Statement, Hearing; Enforcement Proceeding - Expert Report, Supplement to the Expert Report, Deposition, 2nd Supplement to the Expert Report, 3rd Supplement to the Expert Report, Witness Statement, 4th Supplement to the Expert Report, Supplement to Witness Statement, Hearing
Blue Mountain Holdings, Ltd., et al. v. Bliss Nutraceticals LLC, et al.; U.S. District Court, Northern District of Georgia (Atlanta), Expert Report, Deposition
Gibson Brands, Inc. v. Armadillo Distribution Enterprises, Inc. and Concordia Investment Partners, LLC; U.S. District Court, Eastern District of Texas (Sherman), Rebuttal Expert Report, Deposition, Supplemental Rebuttal Expert Report, Trial
Conformis, Inc. v. Medacta USA, Inc. and Medacta International SA; U.S. District Court, District of Delaware, Rebuttal Expert Report, Supplemental Rebuttal Expert Report, Deposition
In the Matter of Certain Silicon Photovoltaic Cells and Modules with Nanostructures, and Products Containing Same (Respondents); U.S. International Trade Commission (Washington, D.C.), Expert Report, Deposition, Witness Statement, Hearing
EcoFactor, Inc. v. Google LLC; U.S. District Court, Western District of Texas (Waco), Expert Report, Deposition, Supplemental Report, Trial, Declaration
G.W. Lisk Company, Inc. v. GITS Manufacturing Company; U.S. District Court, Southern District of Iowa (Central); Expert Report, Reply Report, Deposition
American Eagle Outfitters, Inc. and Retail Royalty Company v. Walmart, Inc.; U.S. District Court, Western District of Pennsylvania (Pittsburgh), Expert Report, Rebuttal Report, Deposition
Simply Wireless, Inc. v. T-Mobile US, Inc., et al.; U.S. District Court, Eastern District of Virginia (Alexandria), Expert Report, Reply Report, Deposition, Sur-Sur Reply Report
Gentex Corporation v. Galvion LTD and Galvion Inc.; U.S. District Court, District of Delaware (Wilmington), Expert Report, Reply Report, Deposition
Kirsch Research and Development, LLC v. DuPont de Nemours, Inc., FT Synthetics, Inc. and Atlas Roofing Corporation; U.S. District Court, Eastern District of Texas (Texarkana), Expert Report, Deposition
Malvern PanAnalytical Inc. v. TA Instruments-Waters LLC and Waters Technologies Corporation; U.S. District Court, District of Delaware (Wilmington), Expert Report, Rebuttal Report, Reply Report, Deposition
Finalrod IP, LLC v. Endurance Lift Solutions, Inc.; U.S. District Court, Eastern District of Texas (Marshall), Expert Report, Deposition
Pierce Manufacturing, Inc. and Oshkosh Corporation v. E-One, Inc. and REV Group, Inc.; U.S. District Court, Middle District of Florida (Tampa), Declaration, Expert Report, Deposition, Trial

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Polar Electro Oy v. Suunto Oy, et al.; U.S. District Court, District of Utah (Central), Expert Report, Deposition
Wonderland Switzerland AG v. Evenflo Company, Inc., et al.; U.S. District Court, District of Delaware (Wilmington), Expert Report, Reply Report, Deposition, Trial
Lufkin Industries, Inc. v. International Business Machines Corporation, et al.; 159th Judicial District Court of Angelina County, Texas, Expert Report #1, Supplemental Report #1, Expert Report #2, Supplemental Report #2, Deposition
The Hillman Group, Inc. v. KeyMe, LLC; U.S. District Court, Eastern District of Texas (Marshall), Expert Report, Deposition #1, Consolidated Report, Deposition #2
Team Worldwide Corporation v. Academy, LTD d/b/a Academy Sports + Outdoors, et al.; U.S. District Court, Eastern District of Texas (Marshall), Expert Report, Rebuttal Report, Deposition #1, Deposition #2, Supplemental Report
Nevro Corp. v. Boston Scientific Corporation, et al.; U.S. District Court, Northern District of California (San Francisco), Expert Report, Supplemental Report, Deposition, Declaration
Carnegie Institution of Washington, et al. v. Pure Grown Diamonds, Inc., et al.; U.S. District Court, Southern District of New York (Foley Square), Expert Report, Supplemental Report, Deposition
In the Matter of Certain High-Density Fiber Optic Equipment and Components Thereof (Complainant); U.S. International Trade Commission, Washington, D.C., Expert Report, Deposition, Witness Statement, Hearing
Nissei ASB Co. and Nissei ASB Machine, Co., LTD. v. R&D Tool & Engineering Co.; U.S. District Court, Western District of Missouri (Western), Expert Report, Reply Report, Deposition
Jager Pro Incorporated v. Bull Creek Welding and Fabrication, Inc.; U.S. District Court, Eastern District of Arkansas (Central), Expert Report, Deposition
CFA Institute v. American Society of Pension Professionals & Actuaries, et al.; U.S. District Court, Western District of Virginia (Charlottesville), Expert Report, Deposition
Legacy Separators, LLC, et al. v. Halliburton Energy Services, Inc., et al.; U.S. District Court, Southern District of Texas (Houston), Expert Report, Rebuttal Report, Deposition, Supplemental Report, Second Supplemental Report, Deposition #2, Trial
Saracen LLC, Saracen Energy Power Advisors LP, Saracen Energy Advisors LP, collectively d/b/a The Saracen Group of Companies v. Sylvain Ross and Marginal Unit, Inc.; U.S. District Court, Southern District of Texas (Houston), Expert Report, Supplemental Report, Second Supplemental Report, Third Supplemental Report, Revised Third Supplemental Report, Trial
Innovation Sciences, LLC v. HTC Corporation; U.S. District Court, Eastern District of Texas (Sherman), Expert Report, Deposition
In the Matter of Certain Digital Video Receivers, Broadband Gateways, and Related Hardware and Software Components (Respondents); U.S. International Trade Commission, Washington, D.C., Expert Report, Deposition, Hearing

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Under Armour, Inc. v. Battle Fashions, Inc. and Kelsey Battle; U.S. District Court, Eastern District of North Carolina (Western), Expert Report, Deposition, Supplemental Report
Finalrod IP, LLC and R2R and D, LLC d/b/a Superod v. John Crane, Inc., et al.; U.S. District Court, Western District of Texas (Midland), Expert Report, Rebuttal Report, Supplemental Report, Deposition
In the Matter of Certain Wireless Mesh Networking Products and Related Components Thereof (Complainant); U.S. International Trade Commission, Washington, D.C., Expert Report, Deposition, Witness Statement, Hearing
Liqwd, Inc. and Olaplex LLC v. L'Oréal USA, Inc., et al.; U.S. District Court, District of Delaware (Wilmington), Declaration, Deposition #1, Supplemental Declaration, Deposition #2, Expert Report, Deposition #3, Trial
Nevro Corp. v. Stimwave Technologies, Inc.; U.S. District Court, District of Delaware (Wilmington), Declaration, Deposition, Reply Declaration
XY, LLC v. Trans Ova Genetics, LC; U.S. District Court, District of Colorado (Denver), Expert Report, Deposition, Trial, Declaration
Maui Jim, Inc. v. SmartBuy Guru Enterprises, et al.; U.S. District Court, Northern District of Illinois (Eastern), Expert Report, Deposition
MPEG LA, L.L.C. v. Toshiba America Information Systems, Inc.; Supreme Court of the State of New York, County of New York, Expert Report, Deposition
Team Worldwide Corp. v. Intex Recreation Corp, et al.; Federal Arbitration, Inc., Hearing
Justice Laub and Daniel Kanes v. Nicholas Horbaczewski, Drone Racing League, Inc., et al.; U.S. District Court, Central District of California (Western), Expert Report, Deposition
ASM Holding B.V. v. Hitachi Kokusai Electric, Inc.; International Centre for Dispute Resolution, Hearing
Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., et al.; U.S. District Court, District of Delaware (Wilmington), Expert Report, Deposition, Supplemental Report, Trial, Declaration

Arm Ltd. v. Qualcomm, Inc., Qualcomm Technologies, Inc. and Nuvia, Inc.
Documents and Other Information Considered

Schedule 2

ARM_		ARM_		ARM_		ARM_		ARM_		ARM_	
Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End
00000003	00000003	00060458	00060512	01228027	01228027	01235148	01235148	01239454	01239457	01240470	01240507
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00000022	00000023	00067288	00067289	01228029	01228029	01236577	01236579	01239459	01239459	01241187	01241187
00000045	00000045	00081962	00081963	01228030	01228030	01236580	01236580	01239460	01239460	01241589	01241589
00000244	00000381	00082925	00082937	01228031	01228031	01236581	01236587	01239461	01239461	01241597	01241598
00000382	00000509	00085677	00085677	01228032	01228032	01236588	01236593	01239462	01239462	01243410	01243629
00000510	00000632	00085679	00085679	01228033	01228033	01236594	01236595	01239463	01239463	01243875	01243995
00002198	00002202	00085680	00085680	01228034	01228034	01236596	01236604	01239464	01239464	01245599	01245617
00002226	00002230	00085682	00085682	01228035	01228035	01236605	01236609	01239465	01239465	01245618	01245618
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00024817	00024817	00087449	00087449	01228038	01228038	01236616	01236617	01239470	01239470	01245673	01245703
00024819	00024819	00087451	00087451	01228039	01228039	01236618	01236644	01239471	01239471	01245704	01245705
00024820	00024820	00087699	00087702	01228040	01228040	01236645	01236653	01239472	01239472	01245706	01245719
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00045266	00045276	00109806	00109819	01228060	01228060	01239442	01239442	01240281	01240282	01246195	01246197
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00056538	00056552	01215634	01215653	01228075	01228075	01239451	01239451	01240438	01240447	01262030	01262366
00056882	00056894	01215997	01216001	01233718	01233718	01239452	01239452	01240448	01240448	01266931	01266990
00056900	00056909	01228026	01228026	01235144	01235144	01239453	01239453	01240449	01240469	01266995	01267070

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ARM_	
Begin	**End**
01271909	01271926
01271927	01271928
01271929	01271953
01305479	01305479
01305515	01305515
01309668	01309669
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01427493	01427522
01427523	01427537

MASA_	
Begin	**End**
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QCARM_	
Begin	**End**
0002821	0002823
0002825	0002827
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0557206	0557207
0569461	0569494
0584330	0584332
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0591733	0591736
0591737	0591740
0591741	0591745
0592425	0592431
2414807	2414813
2417783	2417783
2423231	2423233
2424464	2424466
2424496	2424498
2424621	2424623
2425046	2425048
2425297	2425299
2426801	2426803
2426804	2426806
2426807	2426814
2426815	2426821
2426822	2426836
2426837	2426852
2426853	2426855

QCARM_	
Begin	**End**
2426856	2426881
2426882	2426882
2426883	2426884
2426885	2426887
2426888	2426888
2426889	2426891
2426892	2426894
2426895	2426897
2554114	2554116
3241389	3241393
3337797	3337799
3400486	3400548
3404294	3404353
3426632	3426638
3437962	3438003
3438004	3438037
3438038	3438074
3438075	3438113
3438114	3438152
3438153	3438193
3438194	3438234
3438235	3438275
3452409	3452442
3452662	3452664
3452665	3452667
3452668	3452672
3452720	3452723
3452805	3452807
3453808	3453810
3453866	3453868
3453870	3453872
3453873	3453874
3453875	3453877
3453879	3453881
3454302	3454304
3457104	3457104
3460229	3460233
3460451	3460453
3519910	3519912
3520810	3520812
3520813	3520815
3520816	3520818
3520819	3520821

QCARM_	
Begin	**End**
3520822	3520825
3520826	3520829
3520830	3520834
3522610	3522611
3526546	3526553
3536886	3536888
3536889	3536891
3536892	3536894
3536895	3536897
3536898	3536901
3536902	3536905
3536921	3536933
3537376	3537378
3537773	3537776

Arm Ltd. v. Qualcomm, Inc., Qualcomm Technologies, Inc. and Nuvia, Inc.
Documents and Other Information Considered

Schedule 2

Legal Documents and Related Exhibits
2022-08-31 - Complaint
2022-10-26 - Defendants' Answer and Defenses to Plaintiff's Complaint and Jury Demand and Defendants' Amended Counterclaim
2023-02-27 - Arm Ltd.'s Objections and Responses to Qualcomm's First Set of Interrogatories, Nos. 1-11
2023-02-27 - Arm Ltd.'s Objections and Responses to Qualcomm's First Set of Requests for Production, Nos. 1-36
2023-02-27 - Defendants' Responses and Objections to Plaintiff's First Set of Interrogatories, Nos. 1-13
2023-02-27 - Defendants' Responses and Objections to Plaintiff's First Set of Requests for Production, Nos. 1-51
2023-04-04 - Arm Ltd.'s First Amended Objections and Responses to Qualcomm's First Set of Requests for Production, Nos. 1-36
2023-04-26 - Corrected Second Amended Complaint for Willful Patent Infringement
2023-05-04 - Defendants' Responses and Objections to Plaintiff's Second Set of Requests for Production, Nos. 52-58
2023-05-05 - Arm Ltd.'s First Objection and Responses to Qualcomm's Second Set of Requests for Production, Nos 37-50
2023-06-23 - Defendants' First Supplemental Responses and Objections to Plaintiff's First Set of Interrogatories, Nos. 1-4 and 6
2023-07-14 - Arm Ltd.'s First Objection and Responses to Qualcomm's Third Set of Requests for Production, Nos. 51-54
2023-08-23 - Defendants' Responses and Objections to Plaintiff's Third Set of Requests for Production, Nos. 59-122
2023-10-02 - Arm Ltd.'s Objections and Responses to Qualcomm's Second Set of Interrogatories, Nos. 12-19
2023-10-02 - Plaintiff Arm Ltd.'s Objections and Responses to Defendant Qualcomm's Fourth Set of Requests for Production, Nos. 55-70
2023-10-20 - Defendants' Responses and Objections to Plaintiff's First Set of Requests for Admission, Nos. 1-30
2023-10-26 - Defendants' Supplemental and Amended Response and Objections to Plaintiff's First Set of Interrogatories, No. 5
2023-10-26 - Correspondence Email from J. Braly to J. Li
2023-10-27 - Defendants' Responses and Objections to Plaintiff's Second Set of Interrogatories
2023-11-09 - Arm Ltd.'s Objections and Responses to Qualcomm's Third Set of Interrogatories, No. 20
2023-11-17 - Arm Ltd.'s First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories, Nos. 12-19
2023-11-17 - Arm Ltd.'s Objections and Responses to Qualcomm's Fourth Set of Interrogatories, Nos. 21-25
2023-11-17 - Arm Ltd.'s Second Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories, Nos. 1-11
2023-11-17 - Arm Ltd.'s Supplemental Objections and Responses to Qualcomm's Third Set of Interrogatories, No. 20
2023-11-17 - Defendants' First Supplemental Reponses and Objections to Plaintiff's Second Set of Interrogatories, Nos. 15-16
2023-11-17 - Defendants' Responses and Objections to Plaintiff's Fourth Set of Requests for Production, No. 123
2023-11-17 - Plaintiff Arm Ltd.'s Objection and Responses to Defendant Qualcomm's Fifth Set of Requests for Production, Nos. 71-124
2023-11-17 - Plaintiff Arm Ltd.'s Responses and Objections to Qualcomm's First Requests for Admissions to Plaintiff, Nos. 1-30

Deposition Transcripts and Related Exhibits			
2023-09-22 - Rohit Singh	2023-11-02 - Lynn Couillard	2023-11-28 - Jim Thompson	2023-12-08 - Jonathan Armstrong
2023-10-12 - Manu Gulati	2023-11-03 - Gerard Williams	2023-11-28 - Michael Roberts	2023-12-12 - Rene Haas
2023-10-20 - Ramakrishna Chundur	2023-11-08 - Ziad Asghar	2023-11-29 - Lynn Bos	2023-12-14 - Vivek Agrawal
2023-10-25 - Jignesh Trivedi	2023-11-09 - Paul Williamson	2023-11-30 - Karthik Shivashankar	2023-12-14 - Laura Sand
2023-10-25 - Tim Herbert	2023-11-15 - Christiano Amon	2023-12-01 - Pradeep Kanapathipillai	2023-12-19 - Christine Tran (rough transcript)
2023-10-27 - Nitin Sharma	2023-11-15 - Richard Grisenthwaite	2023-12-07 - Mark Werkheiser	2023-12-20 - Ian Thornton (rough transcript)
2023-10-27 - Will Abbey	2023-11-16 - Simon Segars	2023-12-08 - Geeta Balakrishnan	

Publicly Available Information/Other
Bhandarkar, Dileep, and Douglas W. Clark. "Performance from architecture: comparing a RISC and a CISC with similar hardware organization." Proceedings of the fourth international conference on Architectural support for programming languages and operating systems. 1991
NuVia, Inc., Private Company Profile, S&P Capital IQ
Qualcomm Inc. Form 10-K for the fiscal year ended September 24, 2023
Qualcomm Inc. Form 10-K for the fiscal year ended September 26, 2021
https://community.fs.com/article/what-is-a-server-cpu.html

Arm Ltd. v. Qualcomm, Inc., Qualcomm Technologies, Inc. and Nuvia, Inc.
Documents and Other Information Considered

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Publicly Available Information/Other (cont.)
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https://investor.qualcomm.com/segments/qct
https://medium.com/silicon-reimagined/performance-delivered-a-new-way-8f0f5ed283d5
https://podcasts.apple.com/us/podcast/qualcomm-ceo-on-what-he-really-thinks-of-apple/id1091374076?i=1000565773375)
https://semiengineering.com/knowledge_centers/integrated-circuit/ic-types/processors/central-processing-unit-cpu/
https://web.archive.org/web/20210115193713/https://nuviainc.com/
https://web.archive.org/web/20210316180114/https://nuviainc.com/
https://web.archive.org/web/20210422062904/https://nuviainc.com/nuvia-raises-53-million-to-reimagine-silicon-design-for-the-data-center/
https://www.arm.com/architecture/cpu
https://www.arm.com/glossary/cpu
https://www.arm.com/glossary/isa
https://www.arm.com/glossary/risc
https://www.arm.com/glossary/soc-development
https://www.arm.com/partners
https://www.cnbc.com/2022/09/01/why-arms-lawsuit-against-qualcomm-is-a-big-deal.html
https://www.cnbc.com/2023/09/14/arm-ipo-what-is-risc-v-and-why-does-arm-call-the-rival-product-a-risk.html
https://www.currency.me.uk/convert/gbp/usd
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https://www.forbes.com/sites/startswithabang/2018/02/13/chaos-theory-the-butterfly-effect-and-the-computer-glitch-that-started-it-all/?sh=4b460bee69f6
https://www.gigabyte.com/Article/server-processors-the-core-of-a-server-s-performance
https://www.gigabyte.com/Glossary/cisc
https://www.intel.com/content/www/us/en/newsroom/resources/moores-law.html
https://www.investopedia.com/articles/markets/012216/worlds-top-10-semiconductor-companies-tsmintc.asp
https://www.lenovo.com/us/en/glossary/cpu-core/
https://www.pcmag.com/news/qualcomm-snapdragon-x-elite-oryon-chip-tests
https://www.pcworld.com/article/1382740/qualcomm-dubs-nuvia-cpu-oryon-on-track-for-2023.html
https://www.precedenceresearch.com/microprocessor-market
https://www.qualcomm.com/news/releases/2021/01/qualcomm-acquire-nuvia
https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia
https://www.qualcomm.com/products
https://www.qualcomm.com/snapdragon/overview
https://www.techspot.com/article/1856-aiming-for-atoms-chip-manufacturing/

This list incorporates reference to all documents identified in the footnotes of my report.

EXHIBIT 19

Execution Version

AGREEMENT AND PLAN OF MERGER

BY AND AMONG

QUALCOMM TECHNOLOGIES, INC.

NILE ACQUISITION CORPORATION,

NUVIA, INC.,

AND

SHAREHOLDER REPRESENTATIVE SERVICES LLC,
AS SECURITYHOLDERS' AGENT

January 12, 2021

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Exhibit C	Form of Stockholder Support Agreement
Exhibit D	Escrow Agreement
Exhibit E	Holdback Agreement
Exhibit F	Certificate of Merger
Exhibit G	Form of New RSU Grant Notice
Exhibit H	Founder Share Acknowledgment Agreement
Exhibit I	Form of Letter of Transmittal
Exhibit J	280G Waiver

LIST OF SCHEDULES

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Schedule 1.1(b)	Founders
Schedule 1.1(c)	Founder Stock Purchase Agreements
Schedule 1.1(d)	Long Term Contract Liabilities
Schedule 1.1(e)	Key Employees
Schedule 1.1(f)	Company's Knowledge Individuals
Schedule 1.1(g)	Terms of Excluded Equity Awards
Schedule 6.8(f)	Company Restricted Stock Unit Vesting
Schedule 6.8(g)	Specified Options
Schedule 6.8(h)	Pre-Signed Promised Options
Schedule 6.8(i)	Restricted Stock Award
Schedule 7.2(o)	Indebtedness

Schedule 7.2(q)	Contract Terminations
Schedule 9.1(a)(vi)	Identified Indemnity Matters

AGREEMENT AND PLAN OF MERGER

This AGREEMENT AND PLAN OF MERGER (the "**Agreement**") is made and entered into as of January 12, 2021 by and among Qualcomm Technologies, Inc., a Delaware corporation ("**Acquiror**"), Nile Acquisition Corporation, a Delaware corporation ("**Merger Sub**") and wholly owned subsidiary of Acquiror, NuVia, Inc., a Delaware corporation (the "**Company**") and, solely in its capacity as the representative, agent and attorney-in-fact for the Effective Time Holders, Shareholder Representative Services LLC, a Colorado limited liability company ("**Securityholders' Agent**").

RECITALS

A. The Company, Acquiror and Merger Sub believe it is in the best interests of their respective companies and the stockholders of their respective companies that the Company and Merger Sub combine into a single company through the statutory merger of Merger Sub with and into the Company (the "**Merger**") and, in furtherance thereof, the Boards of Directors of the Company and Merger Sub have approved the Merger;

B. In connection with the Merger, the outstanding shares of Company Capital Stock at the Effective Time will be converted into the right to receive the Merger Consideration upon the terms and subject to the conditions of this Agreement;

C. Acquiror will deposit the Escrow Amount with the Escrow Agent, the release of which will be contingent upon the occurrence of certain events and the satisfaction of certain conditions as set forth in Sections 2.10 and 9 and as set forth in the Escrow Agreement;

D. The Company, Acquiror and Merger Sub desire to make certain representations and warranties and other agreements in connection with the Merger;

E. Prior to delivery of this Agreement, and as a condition and inducement for Acquiror's willingness to have entered into this Agreement, each Founder and each Key Employee has executed and delivered to Acquiror the Non-Competition and Non-Solicitation Agreements in the form attached hereto as Exhibit A (each, a "**Non-Competition and Non-Solicitation Agreement**") in each case, to become effective upon the Closing;

F. Prior to delivery of this Agreement, and as a condition and inducement for Acquiror's willingness to have entered into this Agreement, each Founder and each Key Employee has executed and delivered to Acquiror an offer letter or an employment agreement (in Acquiror's discretion), a terms of employment agreement, and an invention disclosure, confidentiality, and proprietary rights agreement with Acquiror or one of its Subsidiaries (as determined by Acquiror in its sole discretion), in each case, to become effective upon the Closing (the "**Key Employee Agreements**"); and

G. Promptly following the execution of this Agreement, but in any event within twenty-four (24) hours thereafter, in order to induce Acquiror and Merger Sub to enter into this Agreement, the stockholders of the Company listed on Schedule 1.1(a) (the "**Required Stockholders**") shall deliver to Acquiror (i) an executed Action by Written Consent of the

Stockholders in the form attached hereto as Exhibit B (the "**Executed Written Consent**") adopting, among other things, this Agreement, and (ii) a stockholder support agreement in the form attached hereto as Exhibit C (each, a "**Stockholder Support Agreement**").

NOW, THEREFORE, in consideration of the covenants and representations set forth herein, and for other good and valuable consideration, the parties agree as follows:

1. Definitions. As used in this Agreement, the following terms shall have the following meanings:

"**280G Information Statement**" has the meaning set forth in Section 6.14.

"**280G Waiver**" has the meaning set forth in Section 6.14.

"**401(k) Plan**" has the meaning set forth in Section 6.15.

"**409A Plan**" has the meaning set forth in Section 3.21(cc).

"**Accelerated Vesting Shares**" has the meaning set forth in the applicable Founder Stock Acknowledgment Agreement.

"**Accrued Dividends**" shall mean, with respect to Vesting Date Shares, Accelerated Vesting Shares, Indemnification Shares or Holdback Shares being issued to a former holder of Founder Restricted Shares, the amount of cash dividends that such holder would have received had such Vesting Date Shares, Accelerated Vesting Shares, Indemnification Shares or Holdback Shares been issued to such holder at the Effective Time.

"**Acquiror**" has the meaning set forth in the introductory paragraph.

"**Acquiror Indemnified Person**" and "**Acquiror Indemnified Persons**" have the meanings set forth in Section 9.1(a).

"**Acquiror Materials**" has the meaning set forth in Section 10.10.

"**Acquiror Parent**" means QUALCOMM Incorporated, a Delaware corporation.

"**Acquiror Parent Common Stock**" has the meaning set forth in Section 2.6(b)(i)(B).

"**Acquiror Per Share Price**" means the average closing price per share of Acquiror Parent Common Stock on NASDAQ over the twenty (20) trading day period ending on the date that is five (5) Business Days prior to the Closing.

"**Acquiror Parent Shares**" has the meaning set forth in Section 2.6(c)(ii)(A).

"**Acquisition Proposal**" has the meaning set forth in Section 5.2(a).

"**Additional Holdback Shares**" has the meaning set forth in the applicable Holdback Agreement.

"**Affiliate**" with respect to any Person, any other Person directly or indirectly Controlling, Controlled by, or under common Control with such Person.

"**Aggregate Exercise Amount**" means the amount represented by the aggregate exercise prices of all Company Options (after giving effect to the cancellation of any Company Options pursuant to Section 6.8, and excluding (A) Company Options with an exercise price that is equal to or greater than the Per Share Consideration amount, and (B) Unvested Company Options held by Persons who are not Continuing Employees or Continuing Independent Contractors, and therefore whose Unvested Company Options are forfeited effective as of the Effective Time) outstanding immediately prior to the Effective Time, which exercise price for each such Company Option shall be equal to the product of (i) the number of shares of Company Common Stock represented by such Company Option multiplied by (ii) the exercise price per share for such Company Option.

"**Agreement**" has the meaning set forth in the introductory paragraph.

"**Anti-Corruption/ AML Law**" means, collectively, (i) the FCPA and any other applicable anti-corruption laws or regulations, and (ii) the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable anti-money laundering statutes of all jurisdictions where the Company or any Company Subsidiary conducts business (or are otherwise applicable to the Company or any Company Subsidiary), the rules and regulations thereunder, and any related or similar rules, regulations or guidelines issued, administered or enforced by any Governmental Entity.

"**Antitrust Law**" means any statute, law, ordinance, rule or regulation of any jurisdiction or any country designed to prohibit, restrict or regulate actions for the purpose or effect of monopolization, attempting to monopolize, tending to create a monopoly, lessening of competition, restraining trade or abusing a dominant position, including the HSR Act, the Sherman Antitrust Act, the Clayton Antitrust Act, the Federal Trade Commission Act, and any law, rule, or regulation requiring parties to submit any notification or filing to an Antitrust Authority regarding any transaction, merger, acquisition or joint venture.

"**Antitrust Authority**" means the U.S. Federal Trade Commission, the Antitrust Division of the U.S. Department of Justice, any office of an Attorney General of any state of the United States or any other Governmental Entity of any jurisdiction, foreign or domestic, with responsibility for enforcing any Antitrust Laws.

"**Applicable Law**" means, collectively, any applicable federal, state, provincial, foreign or local statute, law, ordinance, regulation, rule, code, order, judicial or arbitral or administrative or regulatory judgment, injunction, decision, or rule of law, including general principles of common law and equity.

"**Assumed Shares**" has the meaning set forth in Section 2.6(b)(i)(D).

"**Business Day**" means any day except Saturday, Sunday or any other day on which commercial banks located in San Diego, California are authorized or required by Applicable Law to be closed for business.

"**Buyers**" has the meaning set forth in Section 10.10.

"**Bylaws**" has the meaning set forth in Section 3.1.

"**California Law**" means the California Corporations Code.

"**CAREs Act**" means the U.S. Coronavirus Aid, Relief, and Economic Security Act of 2020.

"**Cap**" has the meaning set forth in Section 9.1(d).

"**CERCLA**" means the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. Section 9601, et seq., as amended.

"**Certificate of Merger**" has the meaning set forth in Section 2.1.

"**Certificates**" has the meaning set forth in Section 2.7(c).

"**CFRA**" has the meaning set forth in Section 3.22(h).

"**Change of Control Payment**" has the meaning set forth in the definition of Transaction Expenses.

"**Closing**" has the meaning set forth in Section 2.2.

"**Closing Balance Sheet**" has the meaning set forth in Section 2.12(d).

"**Closing Certificate**" has the meaning set forth in Section 2.12(d).

"**Closing Date**" has the meaning set forth in Section 2.2.

"**COBRA**" has the meaning set forth in Section 3.22(b).

"**Code**" means the Internal Revenue Code of 1986, as amended.

"**Company**" has the meaning set forth in the introductory paragraph.

"**Company Balance Sheet**" has the meaning set forth in Section 3.9.

"**Company Balance Sheet Date**" has the meaning set forth in Section 3.5(a).

"**Company Business**" means the operation of the business of the Company and the Company Subsidiaries as currently conducted and as currently proposed to be conducted.

"**Company Capital Stock**" means the Company Common Stock and the Company Preferred Stock, collectively.

"**Company Common Stock**" means the common stock, $0.001 par value per share, of the Company.

"**Company Disclosure Schedule**" has the meaning set forth in Section 3.

"**Company Employee Plans**" has the meaning set forth in Section 3.22(a).

"**Company Employee Schedule**" has the meaning set forth in Section 3.23(a).

"**Company Financial Statements**" has the meaning set forth in Section 3.5(a).

"**Company Indemnification Provisions**" has the meaning set forth in Section 6.13(a).

"**Company Indemnified Parties**" has the meaning set forth in Section 6.13(a).

"**Company Intellectual Property**" means the Company Owned Intellectual Property and the Company Licensed Intellectual Property.

"**Company Licensed Intellectual Property**" means Intellectual Property owned by any Person other than Company or a Company Subsidiary that (i) is licensed to the Company or a Company Subsidiary, (ii) for which Company or a Company Subsidiary has received from such Person a covenant not to sue or assert or other immunity from suit, or (iii) such Person has undertaken an obligation to the Company or a Company Subsidiary to assert any Intellectual Property against one or more Persons prior to asserting such Intellectual Property against Company or a Company Subsidiary or an obligation to exhaust remedies as to particular Intellectual Property against one or more Persons prior to seeking remedies against Company or a Company Subsidiary.

"**Company Material Adverse Effect**" means any change, event, circumstance or effect (each, an "**Effect**") that (x) is or is reasonably likely to be materially adverse to the financial condition, properties, assets, liabilities, business, operations, results of operations of the Company and the Company Subsidiaries, taken as a whole, or (y) has or is reasonably likely to have a material adverse effect on the ability of the Company to consummate the Merger and the other transactions contemplated hereby; provided, however, that "Company Material Adverse Effect" shall not include any Effect resulting from (i) changes in general United States or global economic conditions, (ii) general changes or developments in the industry in which the Company operates, (iii) changes in any Applicable Laws (or the interpretation thereof) or GAAP (or the interpretation thereof), (iv) acts of war, sabotage, terrorism, or military action or the escalation thereof, (v) any national or international political or social event or occurrence or material worsening or escalation thereof (including acts of war or terrorism), (vi) any earthquake, hurricane, tornado or other natural disaster, (vii) any impact of Novel Coronavirus (i.e., COVID-19), (viii) the identity of the Acquiror and its effect on the Company's relationships with its suppliers, employees or other third parties, or (ix) any actions expressly required by this Agreement to be taken by the Company, unless, in the case of each of the foregoing clauses (i) through (vii) such Effect has a materially disproportionate effect on the Company or the Company Subsidiaries relative to other industry participants.

"**Company Options**" means options to purchase Company Common Stock.

"**Company Owned Intellectual Property**" means all (i) Intellectual Property solely owned by the Company or a Company Subsidiary or that is purported by the Company to be solely owned by the Company or a Company Subsidiary, and (ii) Intellectual Property in which the

Company or a Company Subsidiary has any joint ownership interest or in which the Company or a Company Subsidiary purports to have any joint ownership interest.

"**Company Preferred Stock**" means, collectively, the Company Series Seed Preferred, Company Series A Preferred, and Company Series B Preferred.

"**Company Product**" means those products required to be identified on Section 3.12 of the Company Disclosure Schedule.

"**Company Registered Intellectual Property**" means all Registered Intellectual Property that is included in the Company Owned Intellectual Property.

"**Company Restricted Shares**" means Early Exercise Restricted Shares, Founder Restricted Shares and any other shares of Company Capital Stock that, as of immediately prior to the Effective Time, are subject to a risk of forfeiture or right of repurchase at less than the fair market value of the underlying shares of Company Capital Stock by the Company.

"**Company Restricted Stock Units**" means restricted stock units of the Company issued under the Company Stock Plan.

"**Company Series A Preferred**" has the meaning set forth in Section 3.6(a).

"**Company Series B Preferred**" has the meaning set forth in Section 3.6(a).

"**Company Series Seed Preferred**" has the meaning set forth in Section 3.6(a).

"**Company Source Code**" means the source code of all Company Technology, together with all extracts, portions and segments thereof.

"**Company Stock Plan**" has the meaning set forth in Section 3.6(a)(iii).

"**Company Subsidiary**" means any Subsidiary of the Company.

"**Company Technology**" means all Technology owned by or licensed to the Company or a Company Subsidiary or purported to be owned by or licensed to the Company or a Company Subsidiary that is used by or on behalf of the Company or a Company Subsidiary in connection with the conduct of the Company Business.

"**Company's Current Facilities**" has the meaning set forth in Section 3.20.

"**Company's Facilities**" has the meaning set forth in Section 3.20.

"**Confidentiality Agreement**" has the meaning set forth in Section 6.4.

"**Continuing Employee**" means each employee of the Company or any Company Subsidiary who is employed immediately prior to the Effective Time and continues employment with Acquiror, the Surviving Corporation, or any Subsidiary or Affiliate of Acquiror or the Surviving Corporation after the Effective Time.

"**Continuing Independent Contractor**" means an independent contractor of the Company or any Company Subsidiary who is providing services immediately prior to the Effective Time and continues to provide services to Acquiror, the Surviving Corporation, or any Subsidiary or Affiliate of Acquiror or the Surviving Corporation after the Effective Time.

"**Contract**" means any contract, agreement or arrangement, whether written or oral.

"**Control**", including, with correlative meanings, the terms "Controlled by" and "under common Control with", as used with respect to any Person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities or by contract or otherwise.

"**Copyrights**" means all copyrights, copyrightable works and mask works (including all applications and registrations for each of the foregoing), and all other rights corresponding thereto throughout the world.

"**D&O Tail Policy**" has the meaning set forth in Section 6.13(b).

"**Damages**" has the meaning set forth in Section 9.1(a).

"**Delaware Law**" has the meaning set forth in Section 2.1.

"**Disputed Items**" has the meaning set forth in Section 2.12(e).

"**Dissenting Shares**" has the meaning set forth in Section 2.6(h).

"**Dissenting Stockholder**" has the meaning set forth in Section 2.6(h).

"**Distribution Per Share Price**" means (i) with respect to (A) the issuance of Additional Holdback Shares and (B) Dividend Shares issuable in connection with an issuance of Holdback Shares, the average closing price per share of Acquiror Parent Common Stock on NASDAQ over the twenty (20) trading day period ending on the Holdback Vesting Date (or, if applicable, the date that the Vesting Acceleration Event occurred), (ii) with respect to Dividend Shares issued in connection with an issuance of Indemnification Shares, the average closing price per share of Acquiror Parent Common Stock on NASDAQ over the twenty (20) trading day period ending on the date that is five (5) Business Days prior to the issuance date of the applicable Indemnification Shares, or (iii) with respect to Dividend Shares issuable in connection with an issuance of Vesting Date Shares or Accelerated Vesting Shares, the average closing price per share of Acquiror Parent Common Stock on NASDAQ over the twenty (20) trading date period ending on the date that is five (5) Business Days prior to the applicable vesting date.

"**Dividend Shares**" has the meaning set forth in Section 2.6(c)(ii)(C).

"**Early Exercise Restricted Shares**" means shares of Company Common Stock issued upon the exercise of Company Options that, as of immediately prior to the Effective Time, are subject to a risk of forfeiture or repurchase at less than the fair market value of the underlying shares of Company Capital Stock by the Company. For the avoidance of doubt, Early Exercise Restricted Shares does not include Founder Restricted Shares.

"**Early Exercise Restricted Share Payment Amount**" has the meaning set forth in Section 2.6(c)(i).

"**Effective Time**" has the meaning set forth in Section 2.2.

"**Effective Time Cash**" means an amount equal to the Company's consolidated cash and cash equivalents on hand (excluding restricted cash and security deposits) as of the Effective Time determined in accordance with GAAP applied on a basis consistent with Company's past practices used in preparing the Company Financial Statements.

"**Effective Time Holders**" means the holders of Company Capital Stock (excluding Early Exercise Restricted Shares) and Vested Company Options, as of immediately prior to the Effective Time.

"**Embargoed Territory**" has the meaning set forth in Section 3.27(c).

"**Employee Optionholder**" has the meaning set forth in Section 2.7(b).

"**Encumbrance**" and any similar term (e.g., "**Encumber**") means any lien, pledge, hypothecation, charge, mortgage, security interest, encumbrance, option, right of first refusal, right of first negotiation, equitable interest, preemptive right, title retention or title reversion agreement, prior assignment, or any other encumbrance or restriction of any nature, whether accrued, absolute, contingent or otherwise (including any restriction on the transfer or licensing of any asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset).

"**End Date**" has the meaning set forth in Section 8.1(b).

"**Environmental Laws**" means any applicable foreign, federal, state or local governmental laws (including common laws), statutes, ordinances, codes, regulations, rules, policies, permits, licenses, certificates, approvals, judgments, decrees, orders, directives, or requirements that pertain to the protection of the environment, protection of public health and safety, or protection of worker health and safety, or that pertain to the handling, use, manufacturing, processing, storage, treatment, transportation, discharge, release, emission, disposal, re-use, recycling, or other contact or involvement with Hazardous Materials, including CERCLA and the RCRA.

"**ERISA**" has the meaning set forth in Section 3.22(a).

"**ERISA Affiliate**" has the meaning set forth in Section 3.22(a).

"**Escrow Account**" has the meaning given to it in Section 2.10(a).

"**Escrow Agent**" means Wilmington Trust, National Association (or such other Persons as may hereafter be reasonably acceptable to Acquiror and the Company).

"**Escrow Agreement**" means an escrow agreement in substantially the form attached hereto as Exhibit D.

"**Escrow Amount**" means $140,000,000, minus the Founder Restricted Share Escrow Amount.

"**Escrow Termination Date**" means the date which is eighteen (18) months following the Closing Date.

"**Estimated Closing Balance Sheet**" has the meaning set forth in Section 2.12(a).

"**Estimated Closing Certificate**" has the meaning set forth in Section 2.12(a).

"**Estimated Net Cash**" means the estimated Net Cash as reflected in the Estimated Closing Certificate and on the Estimated Closing Balance Sheet.

"**Estimated Working Capital**" means the estimated Working Capital as reflected in the Estimated Closing Certificate and on the Estimated Closing Balance Sheet.

"**Exchange Act**" has the meaning set forth in Section 3.5(b).

"**Exchange Fund**" has the meaning set forth in Section 2.7(b)

"**Exchange Ratio**" means a fraction, the numerator of which is the Per Share Consideration and the denominator of which is the Acquiror Per Share Price.

"**Excluded Equity Award**" means (i) any Company Restricted Stock Units issued to a New Hire that was hired in accordance with the terms hereof, including Section 5.1(c), pursuant to a written offer of employment delivered by the Company after the date hereof, where (A) the New Hire has commenced employment during the period commencing on the later of the date hereof and the date that is one (1) month prior to the Closing, and (B) the terms and issuance of such Company Restricted Stock Units comply with the terms set forth on Schedule 1.1(g), and (ii) any Company Restricted Stock Units (A) promised to a potential employee of the Company or a Company Subsidiary that (I) was offered employment during the period commencing on the later of the date hereof and the date that is one (1) month prior to the Closing, and (II) has accepted employment prior to the Closing, but such employment has not yet commenced, and (B) where the terms and issuance of such Company Restricted Stock Units comply with the terms set forth on Schedule 1.1(g).

"**Executed Written Consent**" has the meaning set forth in Recital G.

"**Expense Fund**" has the meaning set forth in Section 2.10(c).

"**Expiration Date**" has the meaning set forth in Section 9.1(b).

"**FCPA**" means the U.S. Foreign Corrupt Practices Act, 15 U.S.C. 78dd et seq.

"**Final Net Cash**" means the Net Cash as of the Closing Date, as reflected in the Closing Certificate and on the Closing Balance Sheet prepared in accordance with Sections 2.12(d) and 2.12(e).

"**Final Working Capital**" means the Working Capital as of the Closing Date, as reflected in the Closing Certificate and on the Closing Balance Sheet prepared in accordance with Sections 2.12(d) and 2.12(e).

"**FMLA**" has the meaning set forth in Section 3.22(h).

"**Former Holder**" and "**Former Holders**" has the meaning set forth in Section 10.10.

"**Founder Restricted Share Escrow Amount**" means an amount equal to (i) ten percent (10%), multiplied by (ii) the aggregate number of Founder Restricted Shares outstanding as of immediately prior to the Effective Time, multiplied by (iii) the Per Share Consideration.

"**Founder Restricted Shares**" means shares of Company Common Stock issued pursuant to the Founder Stock Purchase Agreements that, as of immediately prior to the Effective Time, are subject to a risk of forfeiture or repurchase at less than the fair market value of the underlying shares of Company Capital Stock by the Company.

"**Founders**" means the individuals identified as "Founders" on Schedule 1.1(b).

"**Founder Share Acknowledgment Agreement**" has the meaning set forth in Section 2.6(c)(ii)(A).

"**Founder Stock Purchase Agreements**" means the Founder Stock Purchase Agreements between the Founders and the Company referenced on Schedule 1.1(c).

"**Founder Transferee**" means any Person identified as a "Founder Transferee" on Schedule 1.1(b).

"**Fraud**" means common law fraud under Delaware law.

"**Fully Diluted Shares Outstanding**" means the sum of (i) the number of shares of Company Capital Stock outstanding immediately prior to the Effective Time (including, for clarity, Founder Restricted Shares but excluding Early Exercise Restricted Shares) on an as converted to Company Common Stock basis, *plus* (ii) the number of shares of Company Common Stock underlying Company Options and Company Restricted Stock Units outstanding immediately prior to the Effective Time (excluding (A) Excluded Equity Awards, (B) Unvested Company Options and Company Restricted Stock Units held by any Person who is not a Continuing Employee or Continuing Independent Contractor, and therefore whose Unvested Company Options and Company Restricted Stock Units are forfeited effective as of the Effective Time, and (C) the Pre-Signing Promised Options), *plus* (iii) the number of shares of Company Common Stock or Company Restricted Stock Units underlying any Promised Equity Awards, other than (A) Excluded Equity Awards and (B) Pre-Signing Promised Options with respect to which the applicable Person has executed a Promised Option RSU Grant Notice prior to the Closing.

"**Fundamental Representations**" has the meaning set forth in Section 9.1(b).

"**GAAP**" means United States generally accepted accounting principles.

"**Governmental Entity**" means any federal, state, local or foreign government or political subdivision thereof, or any agency or instrumentality of such government or political subdivision, or any self-regulated organization or other non-governmental regulatory authority or quasi-governmental authority (to the extent that the rules, regulations or orders of such organization or authority have the force of law), or any arbitrator, court or tribunal of competent jurisdiction.

"**Government Officials**" has the meaning set forth in Section 3.28(a)(iii).

"**Hazardous Materials**" means any material, chemical, compound, substance, mixture or by-product that is identified, defined, designated, listed, restricted or otherwise regulated under Environmental Laws as a "hazardous constituent," "hazardous substance," "hazardous material," "acutely hazardous material," "extremely hazardous material," "hazardous waste," "hazardous waste constituent," "acutely hazardous waste," "extremely hazardous waste," "infectious waste," "medical waste," "biomedical waste," "pollutant," "toxic pollutant," "contaminant" or any other formulation or terminology intended to classify or identify substances, constituents, materials or wastes by reason of properties that are deleterious to the environment, natural resources, worker health and safety, or public health and safety, including ignitability, corrosivity, reactivity, carcinogenicity, toxicity and reproductive toxicity. The term "Hazardous Materials" shall include any "hazardous substances" as defined, listed, designated or regulated under CERCLA, any "hazardous wastes" or "solid wastes" as defined, listed, designated or regulated under RCRA, any asbestos or asbestos-containing materials, any polychlorinated biphenyls, and any petroleum or hydrocarbonic substance, fraction, distillate or by-product.

"**HIPAA**" has the meaning set forth in Section 3.22(b).

"**Holdback Agreements**" means the Holdback Agreements, in substantially the form attached hereto as Exhibit E, to be entered into among Acquiror, each Founder and each Founder Transferee.

"**Holdback Shares**" means, with respect to a former holder of Founder Restricted Shares, the Acquiror Parent Shares held back by Acquiror pursuant to the terms of such holder's Holdback Agreement as provided in Section 2.6(c)(ii)(B)(I).

"**Holdback Vesting Date**" has the meaning set forth in the applicable Holdback Agreement.

"**HSR Act**" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended.

"**Indebtedness**" means (i) all indebtedness of the Company or any Company Subsidiary for borrowed money (other than current trade payables incurred in the ordinary course of business consistent with past practices), (ii) all long or short term debt obligations of the Company or any Company Subsidiary evidenced by notes, bonds, debentures or similar instruments, (iii) all capital lease obligations, (iv) all obligations of the Company or any Company Subsidiary under any currency, interest rate or other hedging agreement or arrangement, (v) any obligations secured by a lien on the assets of the Company or any Company Subsidiary, (vi) any post-Closing long term liabilities (as defined by GAAP applied on a basis consistent with the preparation of the Company Financial Statements) arising with respect to commitments under Contracts with third parties set

forth on Schedule 1.1(d) (which schedule may be updated by written agreement between Acquiror and the Company prior to the Closing) that do not constitute Indebtedness under any other clause of this definition (such liabilities, "**Long Term Contract Liabilities**"), (vii) all direct and indirect guarantees made by the Company or any Company Subsidiary with respect to the foregoing clauses (i) through (vi), (viii) all reimbursement obligations under any letters of credit (whether drawn or undrawn), and (ix) any unpaid interest, prepayment penalties, premiums, costs and fees that would arise or become due as a result of the prepayment of any of the obligations described in the foregoing clauses (i) through (viii).

"**Indemnification Shares**" means, with respect to a former holder of Founder Restricted Shares, the Acquiror Parent Shares held back by Acquiror as security with respect to such holder's indemnification obligations as provided in Section 2.6(c)(ii)(B)(II).

"**Independent Accounting Firm**" means BDO USA, LLP or such other independent accounting firm of national reputation selected by Acquiror and reasonably acceptable to the Securityholders' Agent.

"**Information Systems**" has the meaning set forth in Section 3.13(b).

"**Insurance Policies**" has the meaning set forth in Section 3.24.

"**International Trade Law**" means U.S. statutes, laws and regulations applicable to international transactions, including the Export Administration Act, the Export Administration Regulations, the FCPA, the Arms Export Control Act, the International Traffic in Arms Regulations, the International Emergency Economic Powers Act, the Trading with the Enemy Act, the U.S. Customs laws and regulations, the Foreign Asset Control Regulations, and any regulations or orders issued thereunder.

"**Intellectual Property**" means any and all of the following in any country: (i) Patents, (ii) Trademarks, (iii) rights in domain names and domain name registrations, (iv) Copyrights, (v) Trade Secrets, and (vii) other intellectual property and intellectual property rights (whether or not appropriate steps have been taken to protect such intellectual property or such rights under Applicable Law).

"**In-the-Money Vested Option**" has the meaning set forth in Section 2.6(b)(i)(A).

"**Key Employee**" means an individual identified on Schedule 1.1(e).

"**Key Employee Agreement**" has the meaning set forth in Recital F.

"**Knowledge of the Company**", "**Company's Knowledge**" or similar terms means the actual knowledge of any of the individuals identified on Schedule 1.1(f); provided, however, that each such individual shall be deemed to have actual "knowledge" of a fact or matter if such individual would reasonably be expected to discover or become aware of that fact or matter after reasonable due inquiry.

"**Lease**" or "**Leases**" has the meaning set forth in Section 3.18.

"**Legal Proceeding**" means any action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), hearing, audit, examination or investigation commenced, brought, conducted or heard by or before, or otherwise involving, any court or other Governmental Entity or any arbitrator or arbitration panel.

"**Letter of Transmittal**" has the meaning set forth in Section 2.7(c)

"**Long Term Contract Liabilities**" has the meaning set forth in the definition of Indebtedness.

"**Material Contract**" has the meaning set forth in Section 3.17(b).

"**Merger**" has the meaning set forth in Recital A.

"**Merger Consideration**" means the sum of: (i) $1,400,000,000, *plus* (ii) the Aggregate Exercise Amount, *plus* or *minus* (as applicable) (iii) the Working Capital Adjustment Amount (if any), and *plus* or *minus* (as applicable) (iv) the Net Cash Adjustment Amount (if any).

"**Merger Dispute**" has the meaning set forth in Section 10.10.

"**Merger Sub**" has the meaning set forth in the introductory paragraph.

"**Moral Rights**" means moral rights in any works of authorship, including the right to the integrity of the work, the right to be associated with the work as its author by name or under pseudonym and the right to remain anonymous, whether existing under judicial or statutory law of any country or jurisdiction worldwide, regardless of whether such right is called or generally referred to as a "moral right."

"**Net Cash**" means (i) Effective Time Cash, less (ii) the sum of (A) all outstanding Indebtedness of the Company as of immediately prior to the Effective Time (other than Long Term Contract Liabilities), (B) fifty percent (50%) of the Long Term Contract Liabilities as of immediately prior to the Effective Time, and (C) the amount of all unpaid Transaction Expenses as of immediately prior to the Effective Time.

"**Net Cash Adjustment Amount**" has the meaning set forth in Section 2.12(c).

"**New Hire**" has the meaning set forth in Section 6.8(j).

"**New RSU Grant Notice**" has the meaning set forth in Section 6.8(f).

"**Non-Competition and Non-Solicitation Agreement**" has the meaning set forth in Recital E.

"**OFAC**" has the meaning set forth in Section 3.27(c).

"**Officer's Certificate**" has the meaning set forth in Section 9.2(a).

"**Open License Terms**" means terms applicable to a Work which require, as a condition of use, reproduction, modification and/or distribution of the Work (or any portion thereof) or of

any Related Software, any of the following: (a) the making available of source code or any information regarding the Work or any Related Software; (b) the granting of permission for creating modifications to or derivative works of the Work or any Related Software; (c) imposes restrictions on future Patent licensing terms, or other abridgement or restriction of the exercise or enforcement of any Intellectual Property through any means; or (d) the obligation to include or otherwise communicate to other Persons any form of acknowledgement and/or copyright notice regarding the origin of the Work or Related Software. By means of example only and without limitation, Open License Terms includes any versions of the following agreements, licenses or distribution models: (i) the GNU General Public License (GPL); (ii) Lesser/Library GPL (LGPL); (iii) the Common Development and Distribution License (CDDL); (iv) the Artistic License (including PERL); (v) the Netscape Public License; (vi) the Sun Community Source License (SCSL) or the Sun Industry Standards License (SISL); (vii) the Apache License; (viii) the Common Public License; (ix) the Affero GPL (AGPL); (x) the Berkeley Software Distribution (BSD); (xi) the Mozilla Public License (MPL), (xii) the Microsoft Limited Public License or (xiii) any licenses that are defined as OSI (Open Source Initiative) licenses as listed on the site www.opensource.org.

"**Option Cancellation Payment**" has the meaning set forth in Section 2.6(b)(i)(A).

"**Option Exercise Price**" means, with respect to any Company Option, the exercise price per share of Company Common Stock of such Company Option.

"**Order**" means any judgment, writ, decree, stipulation, determination, decision, award, ruling, injunction, temporary restraining order, or other order of a Governmental Entity of competent jurisdiction.

"**Organizational Documents**" means, with respect to an entity, the certificate of incorporation, by-laws, articles of organization, operating agreement, certificate of formation or similar governing documents of such entity.

"**OSHA**" has the meaning set forth in Section 3.23(h).

"**Patents**" means all issued patents (including utility and design patents) and pending patent applications (including certificates of invention and applications for certificates of inventions and priority rights filed with any Registration Office), including all non-provisional and provisional patent applications, substitutions, continuations, continuations-in-part, divisions, renewals, revivals, reissues, re-examinations and extensions thereof.

"**Paying Agent**" has the meaning set forth in Section 2.7(a).

"**Payment Schedule**" has the meaning set forth in Section 2.6(i).

"**Permit**" means any federal, state, county, local or foreign governmental consent, license, permit, grant, franchise, agreement, waiver or other authorization of any Governmental Entity.

"**Permitted Encumbrances**" means (a) any lien of current Taxes not yet delinquent or being contested in good faith and for which adequate reserves have been established; (b) statutory liens of landlords, liens of carriers, warehousepersons and mechanics, and purchase money liens

that in each case are (i) immaterial and (ii) incurred in the ordinary course of business for sums not yet due and payable or being contested in good faith; (c) liens incurred or deposits made in connection with workers' compensation, unemployment insurance and other similar types of social security programs or to secure the performance of tenders, statutory obligations, surety and appeal bonds, bids, leases, government contracts, performance and return of money bonds and similar obligations, in each case in the ordinary course of business, consistent with past practice; and (d) restrictions on transfer of securities under applicable securities laws.

"**Per Share Consideration**" means the quotient of (i) the Merger Consideration *divided by* (ii) the Fully Diluted Shares Outstanding.

"**Person**" means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated entity or Governmental Entity.

"**Personal Data**" means any information relating to an identified or identifiable natural person; an identifiable natural person is one who can reasonably be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity or that natural person.

"**Pillsbury**" has the meaning set forth in Section 10.10.

"**Privileged Deal Materials**" has the meaning set forth in Section 10.10.

"**Prohibited Party Lists**" has the meaning set forth in Section 3.27(c).

"**Processing**" means any operation or set of operations which is performed on Personal Data or on sets of Personal Data, whether or not by automated means, such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure, or destruction.

"**Pre-Closing Period**" has the meaning set forth in Section 5.1(a).

"**Pre-Closing Tax Period**" has the meaning set forth in Section 9.7.

"**Pre-Signing Promised Option**" has the meaning set forth in Section 6.8(h)(i).

"**Promised Equity Award**" means any issuance of Company Restricted Stock Units, Company Options or other equity of the Company promised to a potential employee of the Company or a Company Subsidiary that has accepted employment prior to the Closing, but where such Company Restricted Stock Units or Company Options were not issued prior to the Closing, whether pursuant to Section 6.8 or otherwise.

"**Promised Option Bonus Payment**" has the meaning set forth in Section 6.8(h)(ii).

"**Promised Option RSU Grant Notice**" has the meaning set forth in Section 6.8(h).

"**Pro Rata Portion**" means with respect to each Effective Time Holder, an amount equal to the quotient obtained by dividing (i) the sum of (A) the amount of cash Merger Consideration such Effective Time Holder is entitled to receive pursuant to Section 2.6, prior to any reductions for the Escrow Amount, plus (B) an amount equal to the number of Acquiror Parent Shares issuable to such Effective Time Holder pursuant to Section 2.6 (assuming all such shares are issued), multiplied by the Acquiror Per Share Price, by (ii) the sum of (A) the aggregate amount of cash Merger Consideration all Effective Time Holders are entitled to receive pursuant to Section 2.6, prior to any reductions for the Escrow Amount, plus (B) the aggregate number of Acquiror Parent Shares issuable to all Effective Time Holders pursuant to Section 2.6 (assuming all such shares are issued), multiplied by the Acquiror Per Share Price. The Pro Rata Portion for each Effective Time Holder shall be set forth on the Payment Schedule.

"**Public Software**" means any software, libraries or other code that is licensed under or is otherwise subject to Open License Terms. Software distributed under less restrictive free or open source licensing and distribution models such as those obtained under the MIT, Boost Software License, and the Beer-Ware Public Software licenses or any similar licenses, and any software that is a public domain dedication are also "Public Software."

"**RCRA**" means the federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901, et seq., as amended.

"**Registered Intellectual Property**" means all Intellectual Property for which registrations have been obtained or applications for registration have been filed with a Registration Office.

"**Registrable Securities**" means the Acquiror Parent Shares, the Holdback Shares, the Indemnification Shares, the Dividend Shares and the Additional Holdback Shares; provided, however, that as to any Registrable Securities, such securities shall irrevocably cease to constitute Registrable Securities upon the earliest to occur of (i) the date on which such securities have been disposed of pursuant to the Resale Shelf; (ii) the date on which all of such securities may be disposed of pursuant to Rule 144 of the Securities Act without any volume or other limitation or restriction thereunder, other than a "current public information" requirement; and (iii) the date on which such securities cease to be outstanding.

"**Registration Office**" means, collectively, the United States Patent and Trademark Office, United States Copyright Office and all equivalent foreign patent, trademark, copyright offices or other Governmental Entity.

"**Related Person**" means (i) any executive officer, director, or direct or indirect holder of 1% or more of the shares of Company Capital Stock, (ii) any Affiliate, officer, director or manager of any of the foregoing, or (iii) any immediate family member of any of the foregoing natural Persons.

"**Related Software**" means, with respect to a Work, any other software, libraries or other code (or a portion of any of the foregoing) in each case that is incorporated into or includes, relies on, is linked to or with, is derived from in any manner (in whole or in part), or is distributed with such Work.

"**Release Date**" means a date no later than three (3) Business Days after the Escrow Termination Date.

"**Representative Confirmation Letters**" means written confirmations, in a form reasonably satisfactory to Acquiror, from those Representatives of the Company identified by Acquiror as to all amounts paid, owed and to be owed by the Company with respect to services performed by them through the Closing Date (or following the Closing Date at the pre-Closing direction of the Company or the Effective Time Holders) with respect to the transactions contemplated by the Agreement that constitute Transaction Expenses.

"**Representative Losses**" has the meaning set forth in Section 9.4(b)

"**Representatives**" means officers, directors, partners, trustees, executors, employees, agents, attorneys, accountants and advisors.

"**Required Stockholders**" has the meaning set forth in Recital G.

"**Resale Shelf**" has the meaning set forth in Section 6.17(a).

"**Residual Shares**" has the meaning set forth in Section 2.6(b)(i)(D).

"**Restated Certificate**" has the meaning set forth in Section 3.1.

"**Restricted Benefits**" has the meaning set forth in Section 3.28(a)(iv).

"**Returns**" has the meaning set forth in Section 3.21(a).

"**Rollover Option**" has the meaning set forth in Section 2.6(b)(i)(B).

"**SEC**" means the Securities and Exchange Commission.

"**Section 280G**" has the meaning set forth in Section 6.14.

"**Section 280G Payments**" has the meaning set forth in Section 6.14.

"**Securities Act**" means the Securities Act of 1933, as amended.

"**Securityholders' Agent**" has the meaning set forth in the introductory paragraph.

"**Solicitation Statement**" has the meaning set forth in Section 6.1(a).

"**Specified Options**" has the meaning set forth in Section 6.8(g).

"**Stockholder**" means any holder of Company Capital Stock.

"**Stockholder Support Agreement**" has the meaning set forth in Recital G.

"**Straddle Period**" has the meaning set forth in Section 6.12(a).

"**Subsidiary**" means any entity in which another party directly or indirectly owns, beneficially or of record, at least 50% of the outstanding equity or financial interests of such entity.

"**Substituted Option**" has the meaning set forth in Section 2.6(b)(i)(B).

"**Surviving Corporation**" has the meaning set forth in Section 2.1.

"**Suspension Notice**" has the meaning set forth in Section 6.17(b)(i).

"**Tax**" and, collectively, "**Taxes**" mean any and all federal, state and local taxes of any country, assessments and other governmental charges, duties, impositions and liabilities, including taxes based upon or measured by gross receipts, income, profits, sales, use and occupation, and value added, ad valorem, stamp transfer, franchise, withholding, payroll, recapture, employment, excise and property taxes, together with all interest, penalties and additions imposed with respect to such amounts and any obligations under any Contract with any other Person with respect to such amounts and including any liability for taxes of a predecessor entity.

"**Tax Contest**" has the meaning set forth in Section 6.12(c).

"**Technology**" means (a) all (i) works of authorship (including software, firmware, and middleware in source code and executable code form, architecture, databases, plugins, libraries, APIs, interfaces, algorithms and documentation); (ii) inventions (whether or not patentable), designs, discoveries and improvements; (iii) proprietary, confidential and/or technical data and information, Trade Secrets and know how; (iv) databases, data compilations and collections, and customer and technical data, (v) methods and processes, and (vi) devices, prototypes, designs, specifications and schematics and (b) tangible items constituting, disclosing, embodying or from which any Intellectual Property was derived, including all versions thereof.

"**Threshold**" has the meaning set forth in Section 9.1(c).

"**Trade Secrets**" means all proprietary, confidential and/or non-public information, however documented, including trade secrets within the meaning of Applicable Law.

"**Trademarks**" means all (i) trademarks, service marks, logos, insignias, designs, trade dress, symbols, trade names and fictitious business names, emblems, signs, insignia, slogans, other similar designations of source or origin and general intangibles of like nature (including all applications and registrations for each of the foregoing), and (ii) all goodwill associated with or symbolized by any of the foregoing.

"**Transaction Expenses**" means any fee, cost, expense, payment, expenditure, liability (contingent or otherwise) or obligation of the Company incurred prior to or on the date of the Agreement, between the date of the Agreement and the Effective Time, at the Effective Time or after the Effective Time at the pre-Closing direction of the Company or the Effective Time Holders, including any fees and expenses of legal counsel, accountants and tax advisors, the amount of fees and expenses payable to financial and tax advisors, investment bankers and brokers of the Company, that: (a) relates to (i) the process of identifying, evaluating and negotiating with prospective purchasers of all or a portion of the business of the Company, (ii) the investigation and review conducted by Acquiror and its Representatives, and any investigation or review conducted

by other prospective purchasers of all of a portion of the business of the Company, with respect to the business of the Company (and the furnishing of information to Acquiror and its Representatives and such other prospective purchasers and their Representatives in connection with such investigation and review), (iii) the negotiation, preparation, review, execution, delivery or performance of the Agreement (including the Company Disclosure Schedule), or any certificate, opinion, agreement or other instrument or document delivered or to be delivered in connection with this Agreement or the transactions contemplated hereby, (iv) the preparation and submission of any filing or notice required to be made or given by the Company pursuant to the Agreement, (v) the obtaining of any consent required to be obtained by the Company in connection with the Merger or the transactions contemplated by this Agreement, or (vi) the consummation of the Merger or any of the transactions contemplated by this Agreement; or (b) is triggered or becomes due or payable as a result of the consummation of the Merger or any of the other transactions contemplated by this Agreement (whether alone or in combination with any other event or circumstance occurring at or prior to the Closing), including end-of-service gratuity, stay or retention payments or bonuses, change of control bonuses, transaction or sale bonuses and similar arrangements or obligations arising with respect to any employee or other service provider of the Company due to the Merger or any of the transactions contemplated hereby (and for the avoidance of doubt excluding Company Restricted Stock Units and offer letters or employment agreements offered by Acquiror, but including any bonuses payable to holders of Specified Options, the Early Exercise Restricted Share Payment Amount and any Promised Option Bonus Payment) (a "**Change of Control Payment**"). Without limiting the foregoing, Transaction Expenses shall include (A) the cost of the D&O Tail Policy, and (B) the employer's share of any social security, Medicare, unemployment or payroll Taxes or similar amounts payable in connection with any Change of Control Payment or any payment to an Effective Time Holder with respect to the Company securities held by such Effective Time Holder.

"**Unvested Company Options**" means Company Options (or portions thereof) that are not vested as of the Effective Time.

"**Vested Company Options**" means Company Options (or portions thereof) that are vested as of the Effective Time.

"**Vesting Acceleration Event**" has the meaning set forth in the applicable Holdback Agreement.

"**Vesting Date Shares**" has the meaning set forth in Section 2.6(c)(ii)(B).

"**Viruses**" has the meaning set forth in Section 3.11(j).

"**WARN Act**" has the meaning set forth in Section 3.23(g).

"**Willful Breach**" means, with respect to any breaches or failures to perform any of the covenants or other agreements contained in this Agreement, a material breach that is a consequence of an act or failure to act undertaken by the breaching party with actual knowledge that such party's act or failure to act would, or would reasonably be expected to, result in or constitute a breach of this Agreement.

"**Work**" means any work of authorship, including any software, libraries or other code (including middleware and firmware).

"**Working Capital**" means, without duplication, (i) the total current assets of the Company and the Company Subsidiaries (including prepaid expenses *but excluding* Tax assets, cash and cash equivalents) as of 12:01 a.m. local time on the Closing Date, *less* (ii) all current liabilities of the Company and the Company Subsidiaries (including all accounts payable, current liabilities with respect to the contracts set forth on Schedule 1.1(d), accrued or deferred expenses, payroll and pension liabilities (including any accrued paid time off and vacation balances, regardless as to whether such amounts are to be paid off in connection with the Closing), Taxes payable, deferred revenue, or other similar obligations, *but excluding* Transaction Expenses and Indebtedness), as of 12:01 a.m. local time on the Closing Date, in each case as determined in accordance with GAAP applied on a basis consistent with Company's past practices used in preparing the Company Financial Statements.

"**Working Capital Adjustment Amount**" has the meaning set forth in Section 2.12(b).

"**Working Capital Target**" means $0.

2. The Merger.

2.1 The Merger. At the Effective Time and subject to and upon the terms and conditions of this Agreement, the Certificate of Merger attached hereto as Exhibit F (the "**Certificate of Merger**") and the applicable provisions of the Delaware General Corporation Law ("**Delaware Law**"), Merger Sub shall be merged with and into the Company, the separate corporate existence of Merger Sub shall cease and the Company shall continue as the surviving corporation (the "**Surviving Corporation**").

2.2 Closing; Effective Time. The closing of the transactions contemplated hereby (the "**Closing**") shall take place at such time mutually agreed upon by Acquiror and the Company, but no later than two (2) Business Days after the satisfaction or waiver of each of the conditions set forth in Section 7 hereof (the "**Closing Date**"). The Closing shall take place at the offices of DLA Piper LLP (US), 4365 Executive Drive, Suite 1100, San Diego California 92121, or at such other location as the parties hereto agree. In connection with the Closing, the parties hereto shall cause the Merger to be consummated by filing the Certificate of Merger with the Delaware Secretary of State, in accordance with the relevant provisions of Delaware Law (the time of such filing being the "**Effective Time**").

2.3 Effect of the Merger. At the Effective Time, the effect of the Merger shall be as provided in this Agreement, the Certificate of Merger and the applicable provisions of Delaware Law. Without limiting the generality of the foregoing, and subject thereto, at the Effective Time, all the property, rights, privileges, powers and franchises of the Company and Merger Sub shall vest in the Surviving Corporation, and all debts, liabilities and duties of the Company and Merger Sub shall become the debts, liabilities and duties of the Surviving Corporation.

2.4 Certificate of Incorporation; Bylaws.

(a) At the Effective Time, the Certificate of Incorporation of the Surviving Corporation shall be amended and restated in its entirety to read as the Certificate of Incorporation of Merger Sub as in effect immediately prior to the Effective Time; provided, however, that Article I of the Certificate of Incorporation of the Surviving Corporation shall be amended to read as follows: "The name of the corporation is NuVia, Inc."

(b) The Bylaws of Merger Sub, as in effect immediately prior to the Effective Time, shall be the Bylaws of the Surviving Corporation until thereafter amended.

2.5 Directors and Officers. At the Effective Time, the directors and officers of Merger Sub immediately prior to the Effective Time shall be the directors and officers of the Surviving Corporation, to serve until their respective successors are duly elected or appointed and qualified.

2.6 Effect on Company Capital Stock and Other Securities.

(a) Company Capital Stock. At the Effective Time, by virtue of the Merger and without any action on the part of the Company, Merger Sub or Acquiror, each share of Company Capital Stock issued and outstanding immediately prior to the Effective Time (excluding Dissenting Shares and Company Restricted Shares) shall be converted and exchanged, without any action on the part of the holders thereof, into the right to receive (without interest) an amount of cash equal to the Per Share Consideration, less (i) the Pro Rata Portion of the Escrow Amount and the Expense Fund attributable to such share as contemplated in Sections 2.6(i) and 2.10 of this Agreement, as set forth on the Payment Schedule, which cash shall be deposited into the Escrow Account to secure the indemnification obligations of the Effective Time Holders in this Agreement and subject to (and released in accordance with) the terms and conditions set forth in the Escrow Agreement, and (ii) with respect to each Founder and each Founder Transferee, an amount of cash equal to (A) ten percent (10%), multiplied by (B) the number of shares of Company Capital Stock held by such Founder or Founder Transferee (excluding Company Restricted Shares), multiplied by (C) the Per Share Consideration, which cash shall be subject to the terms and conditions set forth in such Founder's or Founder Transferee's Holdback Agreement.

(b) Company Options. As soon as practicable following the date of this Agreement (to the extent not such actions have not already been taken), the Board of Directors of the Company (or, if appropriate, any committee administering the Company Stock Plan) shall adopt such resolutions or take such other actions (including obtaining any required consents) as may be required to effect the following.

(i) Each Company Option that has been granted under the Company Stock Plan will, by virtue of the Merger, be treated as follows:

(A) The portion of any Vested Company Option that is outstanding immediately prior to the Effective Time and then exercisable for an exercise price less than the Per Share Consideration (any such portion of such Vested Company Option, an "**In-the-Money Vested Option**") shall be canceled in exchange for payment to the holder of such Vested Company Option of an amount in cash equal to the amount, if any, by which (I) the Per Share Consideration that would be payable in accordance with Section 2.6(a) of this Agreement in

respect of the shares of Company Common Stock issuable upon exercise of such In-the-Money Vested Option had such In-the-Money Vested Option been exercised in full prior to the Effective Time exceeds (II) the aggregate Option Exercise Price for such In-the-Money Vested Option, less (i) the Pro Rata Portion of the Escrow Amount and the Expense Fund attributable to such Vested Company Option as contemplated in Sections 2.6(i) and 2.10 of this Agreement, as set forth on the Payment Schedule, which cash shall be deposited into the Escrow Account to secure the indemnification obligations of the Effective Time Holders in this Agreement and subject to (and released in accordance with) the terms and conditions set forth in the Escrow Agreement (such payment, the "**Option Cancellation Payment**");

(B) (I) Each Unvested Company Option that is held by a Continuing Employee or Continuing Independent Contractor and has an exercise price that is less than the Per Share Consideration shall be converted at the Effective Time, in a manner that is intended to satisfy the requirements of Sections 424 and 409A of the Code and the Treasury Regulations thereunder, into an option to acquire, on substantially the same terms and conditions as were applicable under such Unvested Company Option (other than with respect to exercisability prior to vesting) (such portion of every Unvested Company Option, a "**Rollover Option**"), the number of shares of Acquiror Parent common stock, par value $0.0001 per share ("**Acquiror Parent Common Stock**") (rounded down to the nearest whole share), determined by multiplying the number of shares of Company Common Stock subject to such Rollover Option immediately prior to the Effective Time by the Exchange Ratio, at an exercise price per share of Acquiror Parent Common Stock (rounded up to the nearest whole cent) equal to (x) the exercise price per share of Company Common Stock otherwise purchasable pursuant to such Rollover Option divided by (y) the Exchange Ratio (such new option to purchase Acquiror Parent Common Stock, a "**Substituted Option**"), and (II) each Unvested Company Option held by a Person that is not a Continuing Employee or Continuing Independent Contractor shall by virtue of the Merger and without any action on the part of the holder thereof, no longer be outstanding, shall be canceled and retired without payment of any consideration therefor and shall cease to exist;

(C) Subject to Section 2.6(b)(i)(D), each provision in the Company Stock Plan (or any other Company Employee Plan) providing for the issuance, transfer or grant of any shares of Company Common Stock or any Company Options or any other interests of the Company shall be deleted prior to the Effective Time, and the Company shall ensure prior to the Effective Time that, following the Effective Time, there shall be no rights to acquire shares of Company Common Stock, Company Options, or any other interests of the Company or the Surviving Corporation; and

(D) any shares of Company Common Stock that remain available for issuance pursuant to any Company Stock Plan as of the Effective Time (the "**Residual Shares**") shall be converted at the Effective Time into the number of shares of Acquiror Parent Common Stock equal to the product of the number of such Residual Shares and the Exchange Ratio (such shares of Acquiror Parent Common Stock, the "**Assumed Shares**").

(ii) The adjustments provided in Section 2.6(b)(i)(B) with respect to Rollover Options, whether or not such Rollover Options are "incentive stock options" (as defined in Section 422 of the Code), are intended to be effected in a manner that is consistent with Section 424(a) of the Code.

(iii) All amounts payable pursuant to this Section 2.6(b) shall be subject to any required withholding of Taxes and shall be paid without interest.

(iv) At the Effective Time, by virtue of the Merger and without the need of any further corporate action, Acquiror shall assume the Company Stock Plan, with the result that Acquiror may issue the Assumed Shares after the Effective Time pursuant to the exercise of options or other equity awards granted under the Company Stock Plan or any other plan of Acquiror or any its Affiliates.

(v) All Company Options not covered by Sections 2.6(b)(i)(A) and 2.6(b)(i)(B), including any Company Option that is outstanding immediately prior to the Effective Time with an exercise price that is equal to or greater than the Per Share Consideration, shall be canceled at the Effective Time without payment of any consideration.

(c) Company Restricted Shares.

(i) Early Exercise Restricted Shares. As soon as practicable following the date of this Agreement (to the extent such actions have not already been taken), the Board of Directors of the Company (or, if appropriate, any committee administering the Company Stock Plan) shall adopt such resolutions or take such other actions (including obtaining any required consents) as may be required such that each Early Exercise Restricted Share held by a Stockholder shall by virtue of the Merger and without any action on the part of the holder thereof, no longer be outstanding, shall be cancelled and retired without payment of any consideration therefor (other than the repayment to the Stockholder of the original exercise price paid for such share, if any, which shall be made prior to the Effective Time), and shall cease to exist. The Company shall take such actions as shall be reasonably necessary to provide for the payment to holders of Early Exercise Restricted Shares of such exercise amounts (collectively, the "**Early Exercise Restricted Share Payment Amount**") concurrently (or substantially concurrently) with the Closing, including the gathering of taxpayer certifications, to the extent required and not already in the possession of the Company.

(ii) Founder Restricted Shares.

(A) At the Effective Time, as provided in the "**Founder Share Acknowledgment Agreement**" in the form attached hereto as Exhibit H, the outstanding Founder Restricted Shares shall be converted and exchanged without any action on the part of the holders thereof into the right to receive (I) that number of shares of Acquiror Parent Common Stock equal to the Exchange Ratio, multiplied by the number of Founder Restricted Shares held by the holder thereof (such shares, "**Acquiror Parent Shares**"), which Acquiror Parent Shares shall be issued as provided in Section 2.6(c)(ii)(B), plus (II) potential Dividend Shares as provided in Section 2.6(c)(ii)(C).

(B) Acquiror shall issue, or cause to be issued, to each former holder of Founder Restricted Shares that number of such holder's Acquiror Parent Shares as shall have vested on an applicable fiscal quarter vesting date as provided in the applicable Founder Share Acknowledgment Agreement; provided that (I) in the event that a Vesting Acceleration Event has not occurred prior to such vesting date, ten percent (10%) of the Acquiror

Parent Shares that vested on such date (rounded down to the nearest whole share) shall be held back by Acquiror pursuant to the terms of such holder's Holdback Agreement, and (II) in the event that the Escrow Termination Date has not occurred prior to such vesting date, ten percent (10%) of the Acquiror Parent Shares that vested on such date (rounded down to the nearest whole share) shall be held back by Acquiror as security with respect to such holder's indemnification obligations. The Acquiror Parent Shares issued to such holder on the applicable vesting date are referred to herein as "**Vesting Date Shares**".

(C) Concurrently with the issuance of Vesting Date Shares, Accelerated Vesting Shares, Indemnification Shares or Holdback Shares to a former holder of Founder Restricted Shares as provided in such holder's Founder Share Acknowledgment Agreement and Holdback Agreement, Acquiror shall issue, or cause to be issued, a number of additional Acquiror Parent Shares (such shares, "**Dividend Shares**") equal to (I) the amount of the Accrued Dividends attributable to such Vesting Date Shares, Accelerated Vesting Shares, Indemnification Shares or Holdback Shares, divided by (II) the applicable Distribution Per Share Price, rounded down to the nearest whole share.

(D) All Acquiror Parent Shares and cash issued to a Founder or Founder Transferee pursuant to Sections 2.6(a) or 2.6(c)(ii) of this Agreement including Acquiror Parent Shares and cash subject to the applicable Holdback Agreement or Escrow Account will constitute Merger Consideration (subject to interest that may be imputed on such amounts if required by Section 483 or 1274 of the Code) payable in connection with shares of Company Capital Stock, and, for Tax purposes, not compensation or deemed compensation for any services rendered or to be rendered at any time, and will not be subject to payroll Tax withholding.

(iii) Fractional Shares. Notwithstanding any other provision of this Agreement, no fractional shares of Acquiror Parent Common Stock will be issued and any holder of Founder Restricted Shares entitled to receive a fractional share of Acquiror Parent Common Stock but for this Section 2.6(c)(iii) (after aggregating all Founder Restricted Shares held by such holder) shall be entitled to receive an amount in cash (without interest) determined by multiplying such fraction by the Acquiror Per Share Price.

(d) Company Restricted Stock Unit. At the Effective Time, each Company Restricted Stock Unit held by a Continuing Employee or Continuing Independent Contractor that is unexpired, unpaid and outstanding as of the Effective Time, whether vested or unvested, shall, on the terms and subject to the conditions set forth in this Agreement, be assumed by Acquiror. Each such Company Restricted Stock Unit so assumed by Acquiror under this Agreement shall continue to have, and be subject to, the same terms and conditions (including, if applicable, the vesting arrangements and other terms and conditions set forth in the plan under which such Company Restricted Stock Units were issued and the applicable notice of grant of stock unit or other applicable agreement) as are in effect immediately prior to the Effective Time, except that such Company Restricted Stock Units shall be settled by the issuance of (i) that number of whole shares of Acquiror Parent Common Stock equal to the product (rounded down to the next whole number of shares of Acquiror Parent Common Stock, with no cash being payable for any fractional shares eliminated by such rounding at the Closing) of the number of shares of Company Common Stock that were issuable upon settlement of such Company Restricted Stock Unit

immediately prior to the Effective Time multiplied by the Exchange Ratio, plus (ii) that number (if any) of additional shares of Acquiror Parent Common Stock payable with respect to any dividend equivalents that accrue with respect to such assumed Company Restricted Stock Units on and after the Effective Time. The Merger shall not terminate any of the outstanding Company Restricted Stock Units held by Continuing Employees or Continuing Independent Contractors or accelerate the exercisability or vesting of such Company Restricted Stock Units or the shares of Acquiror Parent Common Stock which shall be subject to those Company Restricted Stock Units upon Acquiror's assumption in the Merger. Promptly after the Closing Date, Acquiror shall issue to each Person who immediately prior to the Effective Time was a holder of an outstanding Company Restricted Stock Unit a document evidencing the foregoing assumption by Acquiror.

(e) Company Warrants. At the Effective Time, all warrants to purchase shares of Company Capital Stock shall no longer be outstanding and shall automatically cease to exist, and each holder of such a warrant shall cease to have any rights with respect thereto.

(f) Cancellation of Treasury Shares. At the Effective Time, each share of Company Capital Stock that is owned by the Company or any Company Subsidiary, and in each case not held on behalf of third parties, shall, by virtue of the Merger and without any action on the part of the holder thereof, no longer be outstanding, shall be cancelled and retired without payment of any consideration therefor and shall cease to exist.

(g) Capital Stock of Merger Sub. At the Effective Time, each share of common stock of Merger Sub issued and outstanding immediately prior to the Effective Time shall be converted into and exchanged for one validly issued, fully paid and nonassessable share of common stock of the Surviving Corporation. Each stock certificate of Merger Sub evidencing ownership of any such shares shall continue to evidence ownership of such shares of capital stock of the Surviving Corporation.

(h) Dissenters' Rights. Notwithstanding any provision of this Agreement to the contrary, any shares of Company Capital Stock held by a holder who has demanded and perfected such holder's right for appraisal of such shares in accordance with Delaware Law or California Law (to the extent applicable) and who, as of the Effective Time, has not effectively withdrawn or lost such right to appraisal ("**Dissenting Shares**"), if any, shall not be converted into the Merger Consideration but shall instead be converted into the right to receive such consideration as may be determined to be due with respect to such Dissenting Shares pursuant to Delaware Law or California Law (to the extent applicable). The Company shall give Acquiror prompt notice of any demand received by the Company to require the Company to purchase shares of Company Capital Stock, and Acquiror shall have the right to direct and participate in all negotiations and proceedings with respect to such demand. The Company agrees that, except with the prior written consent of Acquiror, or as required under Delaware Law or California Law (to the extent applicable), it will not voluntarily make any payment with respect to, or settle or offer to settle, any such purchase demand. Each holder of Dissenting Shares ("**Dissenting Stockholder**") who, pursuant to the provisions of Delaware Law or California Law (to the extent applicable), becomes entitled to payment of the fair value for shares of Company Capital Stock shall receive payment therefore (but only after the value therefore shall have been agreed upon or finally determined pursuant to such provisions). If, after the Effective Time, any Dissenting Shares shall lose their status as Dissenting Shares, Acquiror shall issue and deliver, upon surrender by

such stockholder of a certificate or certificates representing shares of Company Capital Stock and a Letter of Transmittal as required pursuant to Section 2.7(c), the portion of the Merger Consideration to which such stockholder would otherwise be entitled under this Section 2.6 and the Certificate of Merger less the portion of the Merger Consideration allocable to such stockholder that has been withheld as part of the Escrow Amount, in respect of such shares of Company Capital Stock pursuant to Section 2.10 hereof.

(i) Payment Schedule. The Company shall prepare and deliver to Acquiror and the Securityholders' Agent, not later than five (5) Business Days prior to the Closing Date, and concurrently with the delivery of the Estimated Closing Certificate, a spreadsheet (the "**Payment Schedule**"), certified by the Chief Executive Officer and the Chief Financial Officer of the Company, which shall set forth all of the following information, as of the Closing Date and immediately prior to the Effective Time:

(i) the name, mailing address and email address of each Stockholder and the number, class and series of shares of Company Capital Stock held by such Stockholder immediately prior to the Effective Time, including, in the case of outstanding shares, the respective certificate numbers, and with respect to each such certificate representing shares of Company Capital Stock and the aggregate Per Share Consideration payable to such Stockholder, such Stockholder's Pro Rata Portion of the Escrow Amount and the Expense Fund, and an indication as to whether any such shares of Company Capital Stock are Company Restricted Shares (including whether such shares are Early Exercise Restricted Shares or Founder Restricted Shares);

(ii) with respect to each holder of Early Exercise Restricted Shares, the number of Early Exercise Restricted Shares held by such holder, the number of Company Restricted Stock Units to be issued to such holder, the number of shares of Acquiror Parent Common Stock that will be subject to such Company Restricted Stock Units after the Effective Time, the post-Closing vesting schedule of such Company Restricted Stock Units, and the amount payable to such holder pursuant to Section 2.6(a);

(iii) with respect to each holder of Founder Restricted Shares, (A) the number of Founder Restricted Shares held by such holder, (B) the aggregate number of Acquiror Parent Shares to be issued to such holder, and (C) the issuance schedule with respect to such Acquiror Parent Shares, including with respect to each issuance (I) the number of Indemnification Shares that would be held back by Acquiror as security for such holder's indemnification obligations under this Agreement and (II) the number of Holdback Shares to be held back pursuant to such holder's Holdback Agreement;

(iv) (A) the name, mailing address and email address of each holder of Company Options, (B) the respective Option Exercise Prices of such Company Options, (C) the amount of the Option Cancellation Payment such holder is entitled to receive, (D) the Tax status of each Company Option under Section 422 and Section 409A of the Code, (E) the vesting status and schedule with respect to each Company Option, (F) the number of shares of Acquiror Parent Common Stock subject to such holder's Substitute Option, and (G) the vesting schedule of such holder's Substitute Option.

(v) each Effective Time Holder's (A) Pro Rata Portion expressed as a percentage, (B) Pro Rata Portion of the amounts to be contributed into the Escrow Account, including, with respect to each holder of Founder Restricted Shares, the number of shares to held and (C) Pro Rata Portion of the Expense Fund;

(vi) the calculation of the Aggregate Exercise Amount, Fully Diluted Shares Outstanding, Merger Consideration, Per Share Consideration, Transaction Expenses, Net Cash Adjustment Amount and Working Capital Adjustment Amount, in each case including the components thereof;

(vii) the amount of the Indebtedness of the Company and the Company Subsidiaries, including a breakdown by Person of amounts owed as of the Closing;

(viii) the amount of Transaction Expenses as set forth in the Representative Confirmation Letters, including a breakdown by Person of amounts owed and wire transfer instructions for each such Person;

(ix) with respect to each New Hire, (A) the name, mailing address and email address of such New Hire, (B) the number of Company Options or Company Restricted Stock Units issuable to such New Hire, (C) the vesting schedule of the Company Restricted Stock Units issuable to such New Hire, (D) the number of shares of Acquiror Parent Common Stock issuable upon settlement of such Company Restricted Stock Units, and (E) the post-Closing vesting schedule with respect to such Company Restricted Stock Units;

(x) with respect to each holder of Company Restricted Stock Units not otherwise addressed in this Section 2.6(i), (A) the name, mailing address and email address of such holder, (B) the number of such holder's Company Restricted Stock Units, (C) the vesting schedule of such holder's Company Restricted Stock Units, (D) the number of shares of Acquiror Parent Common Stock issuable upon settlement of such Company Restricted Stock Units, and (E) the post-Closing vesting schedule with respect to such Company Restricted Stock Units;

(xi) with respect to each holder of a Pre-Signing Promised Option, the name, mailing address and email address of such holder, the number of Company Options held by such holder, the calculation of the number of Company Restricted Stock Units to be issued to such holder pursuant to Section 6.8(h), and the calculation of the amount of any Promised Option Bonus Payment payable to such holder pursuant to Section 6.8(h); and

(xii) whether the payments to be made to the Effective Time Holder are subject to payroll Tax withholding.

2.7 Surrender of Shares.

(a) Paying Agent. Wilmington Trust, National Association shall act as Paying Agent (the "**Paying Agent**") in the Merger.

(b) Acquiror to Provide Cash. On the Closing Date, Acquiror shall deliver, or cause to be delivered, to the Paying Agent by wire transfer cash in an amount (the

"**Exchange Fund**") sufficient to permit the payment of the Merger Consideration to be paid pursuant to Sections 2.6 in exchange for (i) shares of Company Capital Stock, and (ii) cancellation of outstanding Company Options held by Persons who are not employees of the Company or a Company Subsidiary ("**Employee Optionholders**"), in each case outstanding immediately prior to the Effective Time, less the portion of the Merger Consideration to be deposited with the Escrow Agent by Acquiror pursuant to the requirements of Section 2.10. Payments to Employee Optionholders shall be paid at the first reasonably practicable payroll after the Closing.

(c) Exchange Procedures. As soon as reasonably practicable after the date hereof, the Company shall mail or otherwise deliver to each holder of record of Company Capital Stock, whose shares are to be converted into the right to receive the Merger Consideration pursuant to Section 2.6, (i) a letter of transmittal (which shall include a release of claims) in the form attached hereto as Exhibit I (a "**Letter of Transmittal**"); (ii) such other customary documents as may be required pursuant to such instructions; and (iii) instructions for use in effecting the surrender of the certificate or certificates (the "**Certificates**") that immediately prior to the Effective Time represented outstanding shares of Company Capital Stock in exchange for the Merger Consideration. Subject to the Closing and upon surrender of a Certificate for cancellation to the Paying Agent or to such other agent or agents as may be appointed by Acquiror, together with such Letter of Transmittal and other documents, duly completed and validly executed in accordance with the instructions thereto, the holder of such Certificate shall be entitled to receive in exchange therefore an amount in cash equal to the portion of the Merger Consideration that such holder has the right to receive pursuant to this Section 2, less such portion of the Merger Consideration to be deposited by Acquiror with the Escrow Agent on such holder's behalf pursuant to Section 2.10 hereof. The Certificate so surrendered shall forthwith be canceled. Until so surrendered, each outstanding Certificate that prior to the Effective Time represented shares of Company Capital Stock will be deemed from and after the Effective Time, for all corporate purposes other than the payment of dividends, to evidence the right to receive the portion of the Merger Consideration which shall be issued for such Company Capital Stock.

(d) Return of Exchange Fund. If after five (5) years, any shares of Company Capital Stock remain unexchanged or any payments remain unpaid, and any amounts remaining in the Exchange Fund are not escheatable in accordance with unclaimed property laws and regulations, then any amounts remaining in the Exchange Fund may be delivered to Acquiror or its designee. Thereafter, Acquiror shall be responsible for compliance with unclaimed property obligations.

(e) No Liability. Notwithstanding anything to the contrary in this Section 2.7, neither the Paying Agent nor any party hereto shall be liable to any Person for any amount properly paid to a public official pursuant to any applicable abandoned property, escheat or similar law.

(f) Dissenting Shares. The provisions of this Section 2.7 shall also apply to Dissenting Shares that lose their status as such, except that the obligations of Acquiror under this Section 2.7 shall commence on the date of loss of such status and the holder of such shares shall be entitled to receive in exchange for such shares the Merger Consideration to which such holder is entitled pursuant to Section 2.6 hereof.

2.8 No Further Ownership Rights in Company Capital Stock. The Merger Consideration delivered upon the surrender for exchange of shares of Company Capital Stock in accordance with the terms hereof shall be deemed to have been issued in full satisfaction of all rights pertaining to such shares of Company Capital Stock, and there shall be no further registration of transfers on the records of the Surviving Corporation of shares of Company Capital Stock which were outstanding immediately prior to the Effective Time. If, after the Effective Time, Certificates are presented to the Surviving Corporation for any reason, they shall be canceled and exchanged as provided in this Section 2.

2.9 Lost, Stolen or Destroyed Certificates. In the event any Certificates shall have been lost, stolen or destroyed, the Paying Agent shall issue in exchange for such lost, stolen or destroyed Certificates, upon the making of an affidavit of that fact by the holder thereof, such Merger Consideration as may be required pursuant to Section 2.6; provided, however, that Acquiror or the Paying Agent may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed Certificates to deliver a bond in such sum as it may reasonably direct as indemnity against any claim that may be made against Acquiror, the Paying Agent or the Surviving Corporation with respect to the Certificates alleged to have been lost, stolen or destroyed.

2.10 Escrow, Transaction Expenses and Expense Fund.

(a) Escrow. At the Closing, Acquiror shall deposit, or cause to be deposited, with the Escrow Agent in immediately available funds the Escrow Amount (which amounts shall be withheld from the cash payable pursuant to Section 2.6 to the Effective Time Holders as provided for herein). The Escrow Amount shall constitute security solely for the obligations of such Effective Time Holders pursuant to Section 2.12 and Section 9, and shall be held in and distributed in accordance with the provisions of this Agreement and the Escrow Agreement. The Escrow Agreement shall provide that, subject to the terms therein, any Escrow Amount remaining on the Release Date shall be released to the Effective Time Holders (other than Dissenting Stockholders) in accordance with each such Effective Time Holder's Pro Rata Portion as set forth on the Payment Schedule (subject to any reserve for pending claims). The account into which the Escrow Amount is deposited is referred to herein as the "**Escrow Account**". The adoption of this Agreement and the approval of the Merger by the Stockholders shall constitute approval of the Escrow Agreement and of all of the arrangements related thereto, including the placement of the Escrow Amount in escrow and the appointment of the Securityholders' Agent.

(b) Transaction Expenses. On the Closing Date, Acquiror shall pay, or cause to be paid, the Transaction Expenses as set forth in the final Representative Confirmation Letters provided by the Company to Acquiror in accordance with Section 2.6(h) hereof.

(c) Expense Fund. On the Closing Date, Acquiror shall deposit, or cause to be deposited, an aggregate amount equal to $2,500,000 (the "**Expense Fund**") to the Securityholders' Agent to be held by the Securityholders' Agent as agent and for the benefit of the Effective Time Holders in a segregated account to be used for the purposes of paying directly, or reimbursing the Securityholders' Agent for any expenses incurred pursuant to this Agreement, the Escrow Agreement and any other agreements ancillary hereto. The Effective Time Holders will not receive any interest or earnings on the Expense Fund and irrevocably transfer and assign to the

Securityholders' Agent any ownership right that they may otherwise have had in any such interest or earnings. The Securityholders' Agent will hold these funds separate from its corporate funds and will not voluntarily make these funds available to its creditors in the event of bankruptcy. The Securityholders' Agent is not providing any investment supervision, recommendations or advice. The Securityholders' Agent shall have no responsibility or liability for any loss of principal of the Expense Fund other than as a result of its gross negligence or willful misconduct. The Securityholders' Agent is not acting as a withholding agent or in any similar capacity in connection with the Expense Fund, and has no tax reporting obligations in connection with the Expense Fund. As soon as practicable following the completion of the Securityholders' Agent's responsibilities, the Securityholders' Agent shall distribute the remaining Expense Fund (if any) to the Paying Agent for further distribution to the Effective Time Holders based on their respective Pro Rata Portions of such amount.

2.11 Taking of Necessary Action; Further Action. Each of Acquiror, Merger Sub and the Company will take all such reasonable and lawful action as may be necessary or desirable in order to effectuate the Merger in accordance with this Agreement as promptly as possible. If, at any time after the Effective Time, any further action is necessary or desirable to carry out the purposes of this Agreement and to vest the Surviving Corporation with full right, title and possession to all assets, property, rights, privileges, powers and franchises of the Company and Merger Sub, the officers and directors of the Company and Merger Sub are fully authorized in the name of their respective corporations or otherwise to take, and will take, all such lawful and necessary action, so long as such action is not inconsistent with this Agreement.

2.12 Adjustments.

(a) At least five (5) Business Days prior to the Closing Date, the Company shall deliver to Acquiror a certificate of the Chief Executive Officer and Chief Financial Officer of the Company (the "**Estimated Closing Certificate**") setting forth (i) the Estimated Working Capital, (ii) the Estimated Net Cash, (iii) a proposed consolidated balance sheet of the Company and the Company Subsidiaries as of the anticipated Closing Date, which shall have been prepared in accordance with GAAP applied on a basis consistent with the Company's past practices used in preparation of the Company Financial Statements (the "**Estimated Closing Balance Sheet**"), and (iv) the Company's calculation of each of the components of the Estimated Working Capital and the Estimated Net Cash, and the aggregate amounts thereof. The Estimated Closing Certificate shall be used to make any preliminary adjustment to the Merger Consideration on the Closing Date pursuant to Sections 2.12(b) and 2.12(c), subject to further adjustment in accordance with Section 2.12(f).

(b) In the event that the Estimated Working Capital is less than the Working Capital Target, then the Merger Consideration shall be adjusted downward by the amount by which the Estimated Working Capital is less than the Working Capital Target. In the event that the Estimated Working Capital is greater than the Working Capital Target, then the Merger Consideration shall be adjusted upward by the amount by which the Estimated Working Capital is greater than the Working Capital Target. The adjustments, if any, referred to in this Section 2.12(b) are referred to herein as the "**Working Capital Adjustment Amount**."

(c) In the event that the Estimated Net Cash is a negative amount (i.e., less than $0), then the Merger Consideration shall be adjusted downward by the amount by which the Estimated Net Cash is less than $0. In the event that the Estimated Net Cash is a positive amount (i.e., greater than $0), the Merger Consideration shall be adjusted upward by the amount by which the Estimated Net Cash is greater than $0. The adjustments, if any, referred to in this Section 2.12(c) are referred to herein as the "**Net Cash Adjustment Amount**."

(d) Within ninety (90) days after the Closing Date, Acquiror shall prepare and deliver to the Securityholders' Agent a certificate (the "**Closing Certificate**") setting forth, in reasonable detail, (i) the Final Working Capital, (ii) the Final Net Cash, (iii) a consolidated balance sheet of the Company and the Company Subsidiaries as of the Closing Date, which shall be prepared in accordance with GAAP applied on a basis consistent with Company's past practices used in preparing the Company Financial Statements (the "**Closing Balance Sheet**"), and (iv) Acquiror's calculation of each of the components of the Final Working Capital and Final Net Cash, and the aggregate amounts thereof.

(e) The Securityholders' Agent shall have thirty (30) days from the date on which the Closing Certificate and the Closing Balance Sheet have been delivered to it to raise any objection(s) to the Closing Certificate or the Closing Balance Sheet, by delivery of written notice to Acquiror setting forth such objection(s) in reasonable detail (the "**Disputed Items**"). In the event that the Securityholders' Agent shall not deliver any such objection(s) with respect to the Closing Certificate or the Closing Balance Sheet within such thirty (30)-day period, then the Closing Certificate shall be deemed final for purposes of this Section 2.12. In the event that any such objection(s) are so delivered, the Closing Certificate shall be deemed not final and Acquiror and the Securityholders' Agent shall attempt, in good faith, to resolve the Disputed Items and, if they are unable to resolve all of the Disputed Items within thirty (30) days of delivery of such notice, shall, within five (5) Business Days thereafter (or such earlier date as mutually agreed), submit the Disputed Items to the Independent Accounting Firm. Acquiror and the Securityholders' Agent shall provide to the Independent Accounting Firm all work papers and back-up materials relating to the Disputed Items requested by the Independent Accounting Firm to the extent available to Acquiror or its Representatives or the Securityholders' Agent or its Representatives; provided, however, that any materials so provided to the Independent Accounting Firm shall also be made available to the other disputing party hereto. Acquiror and the Securityholders' Agent shall be afforded the opportunity to present to the Independent Accounting Firm any material related to the Disputed Items and to discuss the issues with the Independent Accounting Firm. No party shall have or conduct any communication with the Independent Accounting Firm related to the Disputed Items without the other party either being present or, with respect to written communication, sending to the other party a concurrent copy thereof. The Independent Accounting Firm shall base its determination solely on the presentations and supporting material provided by the parties. In resolving any Disputed Item, the Independent Accounting Firm shall not assign a value to any item higher than the highest value for such item, or lower than the lowest value for such item, claimed by either Acquiror or the Securityholders' Agent. The determination by the Independent Accounting Firm, as set forth in a notice to be delivered to Acquiror and the Securityholders' Agent within thirty (30) days after the submission of the Disputed Items to the Independent Accounting Firm, shall be final, binding and conclusive on Acquiror, the Securityholders' Agent and the Effective Time Holders. The fees and expenses of the Independent Accounting Firm shall be split equally between Acquiror and the Securityholders' Agent (solely

on behalf of the Effective Time Holders). The Final Working Capital and the Final Net Cash reflected in the Closing Certificate, as revised to reflect the resolution of any and all disputes by Acquiror and the Securityholders' Agent and/or the Independent Accounting Firm, shall be deemed to be the "**Final Working Capital**" and the "**Final Net Cash**", respectively.

(f) At such time as the Closing Certificate shall become final in accordance with Section 2.12(e), the Estimated Working Capital shall be compared to the Final Working Capital, and the Estimated Net Cash shall be compared to the Final Net Cash.

(i) In the event that the aggregate of the Final Working Capital and the Final Net Cash is less than the aggregate of the Estimated Working Capital and the Estimated Net Cash, then (A) Acquiror shall be entitled to immediate payment from the Escrow Account of an amount equal to such deficiency, and (B) the Securityholders' Agent and Acquiror shall deliver to the Escrow Agent, within two (2) Business Days following the finalization of the Closing Certificate, a written notice executed by both parties instructing the Escrow Agent to make such payment to Acquiror from the Escrow Account.

(ii) In the event that the aggregate of the Final Working Capital and the Final Net Cash is greater than the Estimated Working Capital and the Estimated Net Cash, then Acquiror shall deposit the amount of the difference with the Paying Agent to be immediately distributed to the Effective Time Holders (other than Dissenting Stockholders) in accordance with each such Effective Time Holder's Pro Rata Portion of such amount as set forth on the Payment Schedule until the amount of such difference has been fully distributed; provided that (A) the payment of such amount allocable to Employee Optionholders may be paid to the Company or its designated payroll service provider, for disbursement to such holders, and (B) unless a Vesting Acceleration Event has occurred with respect to the applicable Founder or Founder Transferee, ten percent (10%) of any amount payable to a Founder or Founder Transferee shall be held back by Acquiror and shall be subject to the applicable Holdback Agreement.

2.13 Tax Withholding. Acquiror or Acquiror's agent shall be entitled to deduct and withhold from the Merger Consideration, or any other payment otherwise payable pursuant to this Agreement, such amounts as may be required to be deducted and withheld under the Code or any provision of Applicable Law and to request any necessary Tax forms or information, including Form W-9 or the appropriate series of Form W-8, as applicable, or any similar information, and to share such forms with Acquiror, its Affiliates and the Paying Agent. To the extent that amounts are so deducted and withheld and timely paid to the appropriate Governmental Entity (or other applicable Person), such deducted and withheld and timely paid amounts shall be treated for all purposes of this Agreement as having been paid to the Person in respect of whom such deduction and withholding was made.

3. Representations and Warranties of the Company. The Company represents and warrants to Acquiror and Merger Sub that the statements contained in this Section 3 are true and correct, except as disclosed in a document of even date herewith and delivered by the Company to Acquiror on the date hereof referring to the representations and warranties in this Agreement (the "**Company Disclosure Schedule**"). The Company Disclosure Schedule will be arranged in paragraphs corresponding to the numbered and lettered paragraphs contained in this Section 3, and

the disclosure in any such numbered and lettered Section of the Company Disclosure Schedule shall qualify only the corresponding subsection in this Section 3 (except to the extent disclosure in any numbered and lettered Section of the Company Disclosure Schedule is readily apparent on its face to apply to another numbered and lettered Section of the Company Disclosure Schedule).

3.1 Organization, Standing and Power. The Company is a corporation duly organized, validly existing and in good standing under the laws of Delaware and has all requisite corporate or similar power and authority to own, lease and operate its properties and assets and to carry on its business as now being conducted and as proposed to be conducted and is duly qualified to do business and is in good standing as a foreign corporation or other legal entity in each jurisdiction where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where the failure to be so qualified and/or authorized would not reasonably be expected to have a Company Material Adverse Effect on the business or the assets of the Company. The Company has delivered to Acquiror a true and correct copy of the Amended and Restated Certificate of Incorporation of the Company (as amended, the "**Restated Certificate**") and the Bylaws of the Company (as amended, the "**Bylaws**"), each as amended to date, and each as so delivered is in full force and effect. The Company is not in violation of any of the provisions of its Organizational Documents. Section 3.1 of the Company Disclosure Schedule sets forth all jurisdictions in which the Company or any Company Subsidiary is, or has been, required to be qualified, authorized, registered or licensed to do business as a foreign corporation or other legal entity, and the identity of the entity which is, or has been, so required to be qualified, authorized, registered or licensed.

3.2 Subsidiaries. Each Company Subsidiary is a legal entity duly organized, validly existing and in good standing under the laws of its respective jurisdiction of organization and has all requisite corporate or similar power and authority to own, lease and operate its properties and assets and to carry on its business as now being conducted and as proposed to be conducted and is duly qualified to do business and is in good standing as a foreign corporation or other legal entity in each jurisdiction where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where the failure to be so qualified and/or authorized would not reasonably be expected to have a Company Material Adverse Effect on the business or the assets of the Company. The Company has delivered to Acquiror a true and correct copy of the Organizational Documents of each Company Subsidiary, in each case as amended to date, and each as so delivered is in full force and effect. No Company Subsidiary is in violation of any of the provisions of its Organizational Documents. Section 3.2 of the Company Disclosure Schedule sets forth a complete list of all Company Subsidiaries, the equity ownership of such Company Subsidiaries, and all jurisdictions in which each Company Subsidiary is, or has been, required to be qualified, authorized, registered or licensed to do business as a foreign corporation or other legal entity. Except for the Company Subsidiaries set forth on Section 3.2 of the Company Disclosure Schedule, the Company does not directly or indirectly own any equity or similar interest in, or any interest convertible or exchangeable or exercisable for, any equity or similar interest in, any corporation, partnership, joint venture or other business association or entity.

3.3 Authority.

(a) The Company has all requisite corporate power and authority to enter into this Agreement and subject to adoption by the Stockholders of this Agreement and approval by Stockholders of the Merger, to consummate the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been duly authorized by all necessary corporate action on the part of the Company. The affirmative vote of the holders of (i) a majority of the outstanding shares of Company Capital Stock, voting together as a single class on an as-converted basis, (ii) a majority of the outstanding shares of Company Common Stock, voting together as a single class and (iii) at least sixty percent (60%) of the outstanding shares of Company Preferred Stock, voting together as a single class on an as-converted basis, are the only approvals necessary of the holders of Company Capital Stock to approve and adopt this Agreement and the transactions contemplated hereby, and no other vote or consent of the holders of any of the holders of Company Capital Stock is necessary under Delaware Law or the Restated Certificate. The Board of Directors of Company has unanimously (i) approved this Agreement and the Merger, (ii) determined that in its opinion the Merger is in the best interests of the stockholders of the Company and is on terms that are fair to such stockholders, and (iii) recommended that the stockholders of the Company approve and adopt this Agreement and the Merger.

(b) This Agreement has been duly executed and delivered by the Company and constitutes the valid and binding obligation of the Company enforceable against Company in accordance with its terms, except that such enforceability may be limited by bankruptcy, insolvency, moratorium or other similar laws affecting or relating to creditors' rights generally, and is subject to general principles of equity. The execution and delivery of this Agreement by the Company does not, and the consummation of the transactions contemplated hereby will not, conflict with, or result in any violation of, or default under (with or without notice or lapse of time, or both), or give rise to a right of termination, cancellation or acceleration of any material obligation or loss of any material benefit under (i) any provision of the Company's or any Company Subsidiary's Organizational Documents or (ii) any Applicable Law, Permit or Order applicable to the Company or any Company Subsidiary.

3.4 Governmental Authorization.

(a) No consent, approval, order or authorization of, or registration, declaration or filing with any Governmental Entity is required by or with respect to the Company or any Company Subsidiary in connection with the execution and delivery of this Agreement or the consummation of the transactions contemplated hereby, except for (i) filings pursuant to the HSR Act, and (ii) the filing of the Certificate of Merger, as provided in Section 2.2 hereof.

(b) The Company or the applicable Company Subsidiary has obtained all Permits necessary for the conduct of its respective business and that are material to the operation of the Company or such Company Subsidiary's business. The Company and the Company Subsidiaries are, and at all times have been, in material compliance with all such Permits, and all such Permits are in full force and effect.

3.5 Financial Statements.

(a) The Company has delivered to Acquiror its consolidated unaudited financial statements (balance sheet, statement of operations and statement of cash flows) for the fiscal year ended December 31, 2019, and for the eleven (11) month period ended November 30, 2020 (such date, the "**Company Balance Sheet Date**", and such financial statements, collectively, the "**Company Financial Statements**"). Except as set forth on Section 3.5(a) of the Company Disclosures Schedule, the Company Financial Statements have been prepared in accordance with GAAP (except that the unaudited financial statements may not contain all footnotes required by GAAP) applied on a consistent basis throughout the periods presented and consistent with each other. The Company Financial Statements fairly present the consolidated financial condition, operating results and cash flow of the Company as of the dates, and for the periods, indicated therein, subject to normal year-end audit adjustments and the absence of footnotes in the case of the unaudited Company Financial Statements.

(b) The Company maintains and will continue to maintain a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformance with GAAP and to maintain accountability for assets; (iii) access to the Company's and the Company Subsidiary's assets is permitted only in accordance with management's authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Neither the Company nor any Company Subsidiary is party to or otherwise involved in any "off-balance sheet arrangements" (as defined in Item 303 of Regulation S-K under the Securities Exchange Act of 1934, as amended (the "**Exchange Act**")).

(c) Schedule 1.1(d) sets forth all Contracts, the liabilities with respect to which would constitute long-term liabilities on a balance sheet prepared in accordance with GAAP applied on a basis consistent with the preparation of the Company Financial Statements.

3.6 Capital Structure.

(a) Capitalization of the Company.

(i) As of the date of this Agreement, the authorized capital stock of the Company consists of:

(A) 173,481,272 shares of Company Common Stock, of which 44,882,754 shares are issued and outstanding, of which 25,676,579 are Company Restricted Shares; and

(B) 118,481,268 shares of Company Preferred Stock, (I) 14,999,979 shares of which are designated as Series Seed Preferred Stock ("**Company Series Seed Preferred**"), all of which are issued and outstanding, (II) 28,695,984 of which are designated as Series A Preferred Stock, all of which are issued and outstanding (the "**Company Series A Preferred**"), and (III) 74,785,305 shares of which are designated as Series B Preferred Stock, all of which are issued and outstanding (the "**Company Series B Preferred**").

(ii) All outstanding shares of Company Capital Stock are duly authorized, validly issued, fully paid and non-assessable and are free of any Encumbrances other than any Encumbrances created by or imposed upon the holders thereof.

(iii) As of the date of this Agreement, there are 20,900,000 shares of Company Common Stock reserved for issuance under the NuVia, Inc. 2019 Stock Incentive Plan (the "**Company Stock Plan**"), of which (A) 6,551,250 shares were subject to outstanding options, (B) 13,057,750 shares have been issued upon the exercise of options issued pursuant to the Company Stock Plan, of which 307,396 shares have been repurchased by the Company, (C) 32,400 shares were issued as a restricted stock award and (D) 1,565,996 shares remain available for the issuance of future options or stock grants under the Company Stock Plan. No other stock option plan or other equity based compensation plan is currently in effect, and there are no shares of Company Capital Stock reserved for issuance under any other equity based compensation plan. The Company has delivered to Acquiror true and complete copies of each Company Option, and each option agreement, if any. All shares of Company Capital Stock issuable upon exercise of the Company Options will be, if and when issued pursuant to the respective terms of such options, duly authorized, validly issued, fully paid and nonassessable.

(iv) Except for the Company Options set forth on Sections 3.6(a)(iv) and 3.6(c) of the Company Disclosure Schedule and the rights created pursuant to this Agreement, there are no other options, warrants, restricted stock awards, calls, rights, commitments or agreements of any character to which the Company is a party or by which the Company is bound, obligating the Company to issue, deliver, sell, repurchase or redeem or cause to be issued, delivered, sold, repurchased or redeemed, any shares of Company Capital Stock, or obligating the Company to grant, extend, accelerate the vesting of, change the price of, or otherwise amend or enter into any such option, warrant, call, right, commitment or agreement.

(v) All shares of outstanding Company Capital Stock and rights to acquire Company Capital Stock were issued in compliance with all applicable federal and state securities laws.

(vi) There are no, and at the Effective Time there will not be, accrued or unpaid dividends on shares of Company Capital Stock.

(b) Section 3.6(b) of the Company Disclosure Schedule sets forth, with respect to each Stockholder, (i) the number, class and series of shares of Company Capital Stock that such Person holds, (ii) the number of shares of Company Common Stock that would be owned by such Person assuming conversion of all shares of Company Preferred Stock so owned by such Person after giving effect to all applicable anti-dilution and similar adjustments, (iii) the address and state of residence of such Person, and (iv) the number of Company Restricted Shares that such Stockholder holds (including whether such Company Restricted Shares are Early Exercise Restricted Shares or Founder Restricted Shares), the per share repurchase price, and the vesting schedule with respect thereto.

(c) Section 3.6(c) of the Company Disclosure Schedule sets forth, as of the date hereof, a true, correct and complete list of all holders of outstanding Company Options,

whether or not granted under the Company Stock Plan, including: (i) the number of shares of Company Common Stock subject to each such option, (ii) the number of shares which are vested, (iii) the number of shares which are unvested, (iv) the date of grant, (v) the vesting commencement date, (vi) the exercise or vesting schedule (and the terms of any acceleration thereof), (vii) the exercise price per share, (viii) the Tax status of such option under Section 422 and Section 409A of the Code, (ix) the term of each such option and the plan from which such option was granted and whether such Company Option is "early exercisable", (x) the address and state of residence of such Person, (xi) whether the holder is an employee of the Company or a Company Subsidiary (including which entity is the employing entity), (xii) if the holder is not an employee, then a description of the relationship between the holder and the Company and/or Company Subsidiary (e.g., non-employee director, consultant, advisory board member, vendor, service provider or other similar person).

(d) The treatment of Company Options and Company Restricted Shares under Section 2.6 hereof is permitted under the Company Stock Plan, Applicable Law, and the underlying individual agreements for such equity awards without obtaining the consent of any participant or holder thereof.

(e) All of the information contained in the Payment Schedule will be accurate and complete immediately prior to the Effective Time, and, except as set forth on the Payment Schedule, no other holder of Company Capital Stock or options, warrants or other rights convertible into Company Capital Stock shall have any right, title or claim to any Merger Consideration. The allocation of the Merger Consideration as set forth in the Payment Schedule will comply with and be in accordance with the Restated Certificate and Delaware Law.

(f) (i) Except as set forth in Section 3.6(f)(i) of the Company Disclosure Schedule, none of the outstanding shares of Company Capital Stock are entitled or subject to any preemptive right, right of participation, right of maintenance or similar right; (ii) except as set forth in Section 3.6(f)(ii) of the Company Disclosure Schedule, other than the rights created pursuant to this Agreement, none of the outstanding shares of Company Capital Stock are subject to any right of repurchase or first refusal or similar right in favor of the Company or any third party; and (iii) except as set forth in Section 3.6(f)(iii) of the Company Disclosure Schedule, there are no agreements or arrangements (other than this Agreement) (A) between or among Company and any of the Stockholders; or (B) to Company's Knowledge, between or among any of the Stockholders relating to the voting or registration of, or restricting any holder from purchasing, selling, pledging or otherwise disposing of (or granting any option or similar right with respect to), any shares of Company Capital Stock.

3.7 Consents under Contracts. Except as set forth in Section 3.7 of the Disclosure Schedule, the execution and delivery of this Agreement by the Company does not, and the consummation of the Merger and the other transactions contemplated by this Agreement will not violate, breach, conflict with or constitute a default (or an event which with written notice, lapse of time or both could constitute a default) or an event of acceleration, or grounds for termination, modification or cancellation, or require consent under (a) any Material Contract or (b) any other Contract to which the Company or any Company Subsidiary is a party, except in the case of this clause (b), where such default, acceleration, termination, modification, cancellation or consent would not reasonably be expected to have a Company Material Adverse Effect.

3.8 Absence of Certain Changes. Since September 18, 2020, (x) there has not occurred any change, event or condition (whether or not covered by insurance) that has resulted in, or could reasonably be expected to result in, a Company Material Adverse Effect, (y) the Company and the Company Subsidiaries have conducted their business in the ordinary course consistent with past practice, and (z) there has not occurred:

(a) any acquisition, sale or transfer of any material asset of the Company or any Company Subsidiary;

(b) any change in accounting methods or practices (including any change in depreciation or amortization policies or rates) by the Company or any Company Subsidiary or any revaluation by the Company or any Company Subsidiary of any of its respective assets;

(c) except as set forth on Section 3.8(c) of the Company Disclosure Schedule, any declaration, setting aside, or payment of a dividend or other distribution with respect to the shares of the Company or similar equity interests of any Company Subsidiary, or any direct or indirect redemption, purchase or other acquisition by the Company or any Company Subsidiary of any shares of capital stock or equity interest of the Company or any Company Subsidiary;

(d) except as set forth on Section 3.8(d) of the Company Disclosure Schedule, any Material Contract entered into by the Company or any Company Subsidiary, other than in the ordinary course of business and as provided to Acquiror, or any material amendment (other than in the ordinary course of business and as provided to Acquiror) or termination of, or default under, any Material Contract;

(e) any amendment or change to the Organizational Documents of the Company or any Company Subsidiary;

(f) except as set forth on Section 3.8(f) of the Company Disclosure Schedule, any increase in or modification of the compensation or benefits payable or to become payable by the Company or any Company Subsidiary to any of director, officer or employee of the Company or any Company Subsidiary; or

(g) any negotiation or agreement by the Company or any Company Subsidiary to do any of the things described in the preceding clauses (a) through (f) (other than negotiations with Acquiror and its representatives regarding the transactions contemplated by this Agreement).

3.9 Absence of Undisclosed Liabilities. Neither the Company nor any Company Subsidiary has any obligations or liabilities of a nature required to be reflected on a consolidated balance sheet prepared in accordance with GAAP other than (a) those set forth or adequately provided for in the consolidated balance sheet of the Company as of the Company Balance Sheet Date (the "**Company Balance Sheet**"); (b) those incurred in the ordinary course of business since the Company Balance Sheet Date and consistent with past practice; (c) those incurred in connection with the negotiation, execution and performance of this Agreement constituting Transaction Expenses and (d) as set forth in Section 3.9 of the Company Disclosure Schedule.

3.10 Litigation.

(a) Except as set forth on Section 3.10(a) of the Company Disclosure Schedule, there is no Legal Proceeding pending before any Governmental Entity, foreign or domestic, or, arbitrator, or, to the Knowledge of the Company, threatened in writing against the Company, any Company Subsidiary, any of their respective properties or any of their respective officers or directors (in his or her capacity as such). There is no Order against the Company or, to the Company's Knowledge, any of director or officer of the Company (in his or her capacity as such).

(b) Except as set forth on Section 3.10(b) of the Company Disclosure Schedule, there is no Legal Proceeding pending or, to the Company's Knowledge, threatened in writing, nor has any written claim or demand been made against the Company that (i) challenges (x) the right, title or interest of the Company or any Company Subsidiary in, to or under the Intellectual Property in which the Company or a Company Subsidiary has (or purports to have) any right, title or interest; or (y) the validity, enforceability or claim construction of any Patents comprising such Intellectual Property; or (ii) alleges infringement, contributory infringement, inducement to infringe, misappropriation or unlawful use by the Company or any Company Subsidiary of Intellectual Property of any other third party.

3.11 Intellectual Property.

(a) Company Intellectual Property Rights.

(i) Disclosure of Certain Intellectual Property. Section 3.11(a)(i) of the Company Disclosure Schedule is a complete and accurate list of: all Company Registered Intellectual Property, grouped by Patents (including withdrawn, lapsed, abandoned or expired Patents), Trademarks, Copyrights, and domain names and setting forth for each of the foregoing as applicable, the title, application number, filing date, jurisdiction, and registration number.

(ii) Enforceability; No Challenges. Except as set forth on Section 3.11(a)(ii) of the Company Disclosure Schedule, each item of Company Registered Intellectual Property is subsisting and in good standing. With respect to each of item of Company Registered Intellectual Property that has been granted or issued, to the Company's Knowledge, such Company Registered Intellectual Property is valid and enforceable. None of the Company, any Company Subsidiary, or any of its or their counsel or agents has misrepresented, or failed to disclose, any facts or information in any application for any Company Registered Intellectual Property that would constitute fraud or a misrepresentation or inequitable conduct with respect to such application. With respect to each item of Company Registered Intellectual Property, neither the Company nor any Company Subsidiary has received notice of any inter partes review, derivative proceedings, inventorship challenge, opposition, cancellation, re-examination, interference, invalidity, unenforceability or other action or proceeding before any Registration Office relating to such Intellectual Property.

(iii) Proper Filing. With respect to each item of Company Registered Intellectual Property, all necessary filing, examination, registration, maintenance,

renewal and other fees and taxes have been timely paid in full, and all necessary documents (including responses to office actions) and certificates have been timely filed with all relevant Registration Offices for the purposes of maintaining such Intellectual Property, in each case in accordance with Applicable Law and to avoid loss or abandonment thereof.

(iv) Section 3.11(a)(iv) of the Company Disclosure Schedule is a complete and accurate list of all actions that must be taken within one hundred twenty (120) days of the Closing Date with respect to any of the Company Registered Intellectual Property, including payment of any filing, examination, registration, maintenance, renewal and other fees and taxes or the filing of any documents, applications or certificates for the purposes of maintaining, perfecting, preserving or renewing such Intellectual Property and to avoid loss or abandonment thereof, in each case in accordance with Applicable Law.

(v) Trade Secrets. The Company and the Company Subsidiaries have taken reasonable measures and precautions to protect and maintain the confidentiality of all Trade Secrets included in the Company Intellectual Property and to avoid the misappropriation of Trade Secrets owned by others. Neither the Company nor any Company Subsidiary has disclosed any Trade Secrets in which Company or a Company Subsidiary has (or purports to have) any right, title or interest (or any tangible embodiment thereof) to any Person without having such Person execute a written agreement regarding the non-disclosure and non-use thereof except to the extent that an officer of the Company has made a conscious election to not protect such item as a Trade Secret. All use, disclosure or appropriation of any Trade Secret not included in the Company Owned Intellectual Property has been pursuant to the terms of a written agreement between the Company or a Company Subsidiary and the owner of such Trade Secret, or is otherwise lawful. Except as set forth on Section 3.11(a)(v) of the Company Disclosure Schedule, neither the Company nor any Company Subsidiary has received any written notice from any Person that there has been an unauthorized use or disclosure of any Trade Secrets included in the Company Intellectual Property. To the Knowledge of the Company, neither the Company nor any Company Subsidiary has received any unwritten notice from any Person that there has been an unauthorized use or disclosure of any Trade Secrets included in the Company Intellectual Property. The Company and each Company Subsidiary has taken all reasonable measures in connection with the hiring and employment of its personnel to ensure that Trade Secrets owned by others have not been disclosed to or used by the Company or any Company Subsidiary without authorization.

(b) Ownership of and Right to Use Company Intellectual Property; No Encumbrances.

(i) Except as set forth on Section 3.11(b)(i) of the Company Disclosure Schedule, the Company or a Company Subsidiary is the sole and exclusive owner of and has good, valid and marketable title to, free and clear of all Encumbrances, all Company Owned Intellectual Property and all Company Technology owned by or purported to be owned by Company or any Company Subsidiary. Neither the Company nor any Company Subsidiary jointly owns or claims any right, title or interest with any other Person in or under any Intellectual Property. The Company or a Company Subsidiary has the sole and exclusive right to bring a claim or suit against any other Person for past, present or future infringement of Company Owned Intellectual Property. Neither the Company nor any Company Subsidiary

has transferred ownership of, or granted any exclusive license with respect to, any Intellectual Property to any Person.

(ii) Except as set forth on Section 3.11(b)(ii) of the Company Disclosure Schedule, the Company and the Company Subsidiaries have valid, legally enforceable right to use, license, practice and otherwise exploit all Company Licensed Intellectual Property and all other Intellectual Property used by the Company or a Company Subsidiary. The Company Intellectual Property constitutes all of the Intellectual Property used in connection with the conduct of the Company Business prior to the Closing.

(c) Agreements Related to Company Intellectual Property.

(i) Disclosure of Outbound Licenses. Section 3.11(c)(i) of the Company Disclosure Schedule is a complete and accurate list of all Contracts pursuant to which the Company or any existing or future Affiliate of the Company (including any Company Subsidiary) granted or is required to grant to any Person any right under or license to, any covenant not to assert or sue or other immunity from suit under or any other rights, to any current or future Intellectual Property, or where the Company or any existing or future Affiliate of the Company has undertaken or assumed any obligation to assert any current or future Intellectual Property against any Person prior to asserting any Intellectual Property against any other Person or any obligation to exhaust remedies as to any Intellectual Property against one or more Persons prior to seeking remedies against any other Person. No Patents owned by Company or any Company Subsidiary are subject to any "License on Transfer" (aka "LOT"), network, or commitment pursuant to which such Patents may not be enforced once the Patents are sold or assigned to any other Person.

(ii) Disclosure of Feedback Rights. Section 3.11(c)(ii)(A) of the Company Disclosure Schedule is a complete and accurate list of all Contracts pursuant to which the Company or any existing or future Affiliate of the Company (including any Company Subsidiary) either (A) assigned to (or is required to assign to) any Person any comments, feedback, suggestions, ideas, know-how or other input communicated by the Company or a Company Subsidiary to such Person or (B) granted to (or is required to grant to) any Person any right, license, release, waiver, or covenant not to sue with respect to any comments, feedback, suggestions, ideas, know-how or other input communicated by the Company or a Company Subsidiary to such Person. With respect to the Contracts listed in Section 3.11(c)(ii)(A) of the Company Disclosure Schedule, Section 3.11(c)(ii)(B) of the Company Disclosure Schedule is a complete and accurate list of all such Contracts pursuant to which the Company or a Company Subsidiary provided any such comments, feedback, suggestions, ideas, know-how or other input to any Person.

(iii) Disclosure of Inbound Licenses. Section 3.11(c)(iii) of the Company Disclosure Schedule is a complete and accurate list of all Contracts pursuant to which any Person granted or is required to grant to Company or any existing or future Affiliate of Company any right under or license to, any covenant not to assert or sue or other immunity from suit under or any other rights to any current or future Intellectual Property, or where Company or a Company Subsidiary is the beneficiary of a covenant or obligation not to assert any Intellectual Property against Company or any existing or future Affiliate of Company prior

to asserting such Intellectual Property against any other Person or a covenant or obligation to exhaust remedies as to particular Intellectual Property against any Person prior to seeking remedies against Company or any Company Subsidiary, in each case other than non-exclusive licenses having a total cost of less than fifty thousand dollars ($50,000) or having an annual cost of less than twenty-five thousand dollars ($25,000).

(iv) Disclosure of Other Intellectual Property Agreements. Section 3.11(c)(iv) of the Company Disclosure Schedule is a complete and accurate list, grouped by subsection, of all Contracts as follows: (A) regarding joint development of any Technology; (B) by which the Company or any existing or future Affiliate of the Company (including the Company Subsidiaries) grants, granted or is required to grant any ownership right or title to any Intellectual Property, (C) by which the Company or a Company Subsidiary is assigned or granted an ownership interest in any Intellectual Property (other than written agreements with employees and independent contractors that assign or grant to the Company ownership of Intellectual Property developed in the course of providing services to the Company); (D) under which the Company or a Company Subsidiary grants or receives an option or right of first refusal or negotiation relating to any Intellectual Property, separated by those granted by and those received by the Company or a Company Subsidiary; (E) under which any Person is granted any right to access Company Source Code or to use Company Source Code (other than employees and independent contractors that have access to Company Source Code solely for purposes of performing services for or on behalf of the Company or a Company Subsidiary); (F) pursuant to which the Company or a Company Subsidiary has deposited or is required to deposit with an escrow agent or any other Person the Company Source Code or other Technology or the execution of this Agreement or the consummation of any of the transactions contemplated hereby could reasonably be expected to result in the release or disclosure of the Company Source Code; (G) expressly limiting the Company's or a Company Subsidiary's ability to transact business in any market, field or geographical area or with any Person, or that expressly restricts the use, sale, transfer, delivery or licensing of Intellectual Property, any Company Technology or any product that incorporates Company Technology, including any covenant not to compete; and (H) the Company or any Company Subsidiary granting to any Person or being granted by any Person most favored nations status in terms of pricing, royalties, license fees or other contractual terms and conditions.

(v) Royalties. Except as set forth on Section 3.11(c)(v) of the Company Disclosure Schedule, the Company and the Company Subsidiaries have no obligation to pay any royalties, license fees or other amounts or provide or pay any other consideration to any Person by reason of ownership, use, exploitation, practice, sale or disposition of any Intellectual Property (or any tangible embodiment thereof) or reproducing, making, using, selling, offering for sale, distributing or importing any Company Product.

(vi) Indemnification. Except as set forth on Section 3.11(c)(vi) of the Company Disclosure Schedule, neither the Company nor any Company Subsidiary has entered into any Contract to defend, indemnify or hold harmless any Person against any charge of infringement, violation or misappropriation of any Intellectual Property.

(vii) No Breach. Neither the Company nor any Company Subsidiary, nor, to the Company's Knowledge, any other Person is in breach of any Contract

described in this Section 3.11(c) and neither the Company nor any Company Subsidiary has notified any Person and no Person has notified the Company or a Company Subsidiary of any such breach.

(viii) No Affiliate Licenses. Except as set forth in Section 3.11(c)(viii) of the Company Disclosure Schedule, there are no Contracts to which the Company or a Company Subsidiary is a party pursuant to which the Company or any existing or future Affiliate of the Company (including the Company Subsidiaries) granted or is required to grant to any Person any rights under the Intellectual Property of any Affiliate of the Company, including Acquiror or any of its Affiliates (other than Intellectual Property owned or controlled by the Company as of the Closing Date). With respect to the Contracts required to be disclosed in Section 3.11(c)(viii) of the Company Disclosure Schedule, neither the Company nor any Company Subsidiary has (A) provided or communicated to the counterparty of any such Contract any comments, feedback, suggestions, ideas, know-how or other input directed to or otherwise relate to any standard essential wireless Technologies or multimedia (including audio and video) Technologies or (B) taken any other action that would result in Acquiror or an of its Affiliates after the Closing to granting any rights or licenses with respect to any standard essential wireless Technologies or multimedia (including audio and video) Technologies, including rights or licenses under any Patents covering any such Technologies.

(d) Public Software.

(i) Except as set forth on Section 3.11(d) of the Company Disclosure Schedule, neither the Company nor any Company Subsidiary has used, modified or distributed any Public Software such that (A) any software owned by the Company or a Company Subsidiary is required to be licensed under any Open License Terms as of the Closing Date or (B) the Company or a Company Subsidiary is required to grant permission for creating modifications to or derivative works of any software owned by the Company or a Company Subsidiary as of the Closing Date.

(ii) No Public Software has been distributed with, in whole or in part, any software owned by the Company or a Company Subsidiary. The Company and the Company Subsidiaries are in compliance with all Open License Terms applicable to any Public Software licensed to or used by the Company or a Company Subsidiary. None of the inventions claimed in any of the Patents included in the Company Owned Intellectual Property are practiced by any Public Software used by the Company or a Company Subsidiary.

(e) No Third Party Rights in Company Intellectual Property. Except as set forth in Section 3.11(e) of the Company Disclosure Schedule:

(i) No Employee Ownership. No current or former officer, manager, director, stockholder, member, employee, founder, consultant or independent contractor of the Company has any right, title or interest in, to or under any Intellectual Property or Technology used by the Company or any Company Subsidiary that has not been either (A) irrevocably assigned or transferred to the Company or a Company Subsidiary or (B) licensed (with the right to grant sublicenses) to the Company or a Company Subsidiary under an exclusive, irrevocable, worldwide, royalty free, fully paid and assignable license.

(ii) No Challenges. No Person has challenged or, to the Company's Knowledge, threatened to challenge and no Person has asserted or, to the Company's Knowledge, threatened a claim or made a demand, nor is there any pending proceeding or, to the Company's Knowledge, threatened, which would adversely affect (A) the Company's or any Company Subsidiary's right, title or interest in, to or under the Company Intellectual Property or Company Technology, including any rights under any license, covenant not to sue or other immunity from suit, or (B) any Contract, license or other arrangement under which Company or a Company Subsidiary claims any right, title or interest under the Company Intellectual Property or Company Technology or restricts the use, manufacture, transfer, sale, delivery or licensing by the Company or a Company Subsidiary of any Company Intellectual Property or Company Technology.

(iii) No Restrictions. Neither the Company nor any Company Subsidiary is subject to any Legal Proceeding or outstanding Order restricting in any manner the use, transfer or licensing by the Company or a Company Subsidiary of the Company Intellectual Property, the use, manufacture, transfer, sale, importation or licensing of any Company Technology (including any Company Product incorporating such Company Technology), or which would affect the validity, use or enforceability of any Company Owned Intellectual Property.

(iv) No Infringement by Other Persons. To the Company's Knowledge, no Company Owned Intellectual Property has been infringed, misappropriated or violated by any Person.

(f) No Infringement by the Company. Except as set forth on Section 3.11(f) of the Company Disclosure Schedule, the conduct of the Company Business and the developing, making, using, offering for sale, selling, distributing and/or importing of any Company Technology or Company Product do not and will not violate, infringe, or misappropriate the Intellectual Property (other than Patents) of any Person and to the Company's Knowledge the Patents of any Person. No Person has asserted or, to the Company's Knowledge, threatened a claim, nor has the Company or a Company Subsidiary received any written notification or the to the Company's Knowledge any unwritten notification, that the Company Business or any Company Technology (or the any Intellectual Property embodied in the Company Technology) violates, infringes, or misappropriates any Person's Intellectual Property. No Person has notified the Company or a Company Subsidiary in writing, or to the Company's Knowledge any unwritten notification, that the Company or a Company Subsidiary requires a license to any Person's Intellectual Property. Neither the Company nor any Company Subsidiary has received any unsolicited written offer to license (or any other notice of) any Person's Intellectual Property.

(g) Employee and Contractor Agreements. Each of the Founders assigned to the Company all Intellectual Property owned by him/her as of the date of the formation of the Company related to the anticipated business of the Company. All current and former employees, consultants and independent contractors of the Company and of each Company Subsidiary who are or were involved in, or who have contributed in any manner to the creation or development of any Company Intellectual Property or Technology for the Company or a Company Subsidiary have executed and delivered to the Company or a Company Subsidiary a written agreement (containing no exceptions to or exclusions from the scope of its coverage) regarding

the protection of proprietary information and the irrevocable present assignment to the Company or a Company Subsidiary of such Intellectual Property and Technology. Each such agreement is substantially identical to the forms of invention assignment, employment, independent contractor, consulting services and/or other written agreements, as applicable, previously delivered by the Company to Acquiror. To the Company's Knowledge, no current or former employee, consultant or independent contractor is in violation of any term of any such agreement, or any other agreement relating to the relationship of any such employee, consultant or independent contractor with the Company. Section 3.11(g) of the Company Disclosure Schedule sets forth a complete and accurate list of all consultants and independent contractors used by the Company or any Company Subsidiary in connection with the conception, reduction to practice, creation, derivation, development, or making of the Company Intellectual Property and Company Technology.

(h) Moral Rights. All authors of any works of authorship in the Company Technology have waived their Moral Rights and have agreed to a covenant not to assert their Moral Rights, in each case, to the extent permitted by Applicable Law, or such authors otherwise prepared such works in jurisdictions that do not recognize Moral Rights.

(i) No Release of Source Code. No event has occurred, and no circumstance or condition exists, that (with or without notice or lapse of time) will, or could reasonably be expected to, result in the disclosure or delivery to any Person of the Company Source Code, other than with respect to Company's obligation to release Public Software included in a Company Product when the Company Product is distributed.

(j) No Viruses in Company Technology. No Company Technology owned by or purported to be owned by the Company contains, and to the Company's Knowledge no Company Technology licensed to the Company contains, any "back door," "time bomb," "Trojan horse," "worm," "drop dead device," "virus" or other software routines or hardware components designed to permit unauthorized access or to disable or erase software, hardware or data ("**Viruses**"). The Company and the Company Subsidiaries have taken all steps necessary to prevent the introduction of Viruses into Company Technology.

(k) No Standards Bodies. Except as set forth on Section 3.11(k) of the Company Disclosure Schedule, neither the Company nor any Company Subsidiary is now or has never been, and no previous owner of any Company Owned Intellectual Property or Company Technology owned or purported to be owned by the Company or a Company Subsidiary was during the duration of their respective ownership, a member or promoter of, or a contributor to or made any commitments or agreements regarding any patent pool, industry standards body, standard setting organization, industry or other trade association or similar organization, in each case that could or does require or obligate the Company, a Company Subsidiary or the previous owner to grant or offer to any other Person any license or other right to the Company Owned Intellectual Property or Company Technology, including any future Technology and Intellectual Property developed, conceived, made or reduced to practice by the Company or any Affiliate of the Company after the Closing Date.

(l) No Government Funding. No funding, facilities, resources or personnel of any Governmental Entity or any university, college, other educational institution, multi-national, bi-national or international organization or research center was used in connection

with the development or creation, in whole or in part, of any Company Owned Intellectual Property or Company Technology owned by the Company or any Company Subsidiary.

(m) No Limits on Company's Rights. The execution, delivery or performance of this Agreement or any ancillary agreement contemplated hereby, the consummation of the transactions contemplated by this Agreement or such ancillary agreements and the satisfaction of any Closing condition set forth herein will not contravene, conflict with or result in any termination of or new or additional limitations on Company's right, title or interest in or to the Company Intellectual Property, nor will it cause: (i) the Company or a Company Subsidiary to grant to any other Person any right to or with respect to any Intellectual Property owned by, or licensed to the Company or a Company Subsidiary, (ii) the Company or a Company Subsidiary to be bound by, or subject to, any non-compete or other restriction on the operation or scope of their respective businesses, or (iii) except as set forth on Section 3.11(m)(iii) of the Company Disclosure Schedule, the Company or a Company Subsidiary to be obligated to pay any royalties or other fees or consideration with respect to Intellectual Property of any Person in excess of those payable by the Company or a Company Subsidiary in the absence of this Agreement or the transactions contemplated hereby.

(n) Transferability of Intellectual Property. Except as set forth on Section 3.11(n) of the Company Disclosure Schedule, all Company Owned Intellectual Property is fully transferable, alienable and licensable by the Company or a Company Subsidiary without restriction and without payment of any kind to any other Person.

3.12 Company Products. A complete and accurate list of each product under development by the Company, including those products which are contemplated to include any Company Technology, together with a brief description of each, is set forth in Section 3.12 of the Company Disclosure Schedule. Neither the Company nor any Company Subsidiary has sold, licensed, delivered or distributed any service, product, Company Product or Technology to any Person. The Company has provided to Acquiror a list identifying and describing all known bugs, errors and defects in the Company Technology.

3.13 Privacy; Security Measures.

(a) Privacy. The Company and the Company Subsidiaries have complied in all material respects with all Applicable Law, contractual obligations, any binding industry standards and the Company's privacy policies relating to any Processing of Personal Data. The Company and the Company Subsidiaries have taken all appropriate, adequate, and industry standard measures to protect and maintain the confidentiality of Personal Data. The execution, delivery and performance of this Agreement and any ancillary agreement contemplated hereby will comply with all Applicable Law relating to privacy, data protection, and information security and with the Company's privacy policies. Neither the Company nor any Company Subsidiary has received any written complaints or has been the subject of any governmental investigations (whether formal or informal) regarding the Company's or any Company Subsidiary's Processing of Personal Data. Neither the Company nor any Company Subsidiary has outstanding high or critical remediation measures to how it manages, Processes, or secures Personal Data made by any customer or as a result of any third-party audit. To the Company's Knowledge, no vendor or service provider that Processes Personal Data on behalf of Company or

any Company Subsidiary has in any material respects: (i) violated any contractual obligation with respect to the Processing of Personal Data or (ii) experienced any breach or unauthorized access to Personal Data that such vendor or service provider Processes on the Company's or a Company Subsidiary's behalf that would require notification of any individual or Governmental Entity under Applicable Law.

(b) Security Measures. The Company and the Company Subsidiaries have implemented and maintained, consistent with industry standard practices and their contractual and other obligations to other Persons, all reasonable and appropriate security and other measures designed to protect all Personal Data, computers, networks, software and systems used in connection with the operation of the Company Business (the "**Information Systems**") from Viruses and unauthorized access, use, modification, disclosure or other misuse of Personal Data. The Company has provided to Acquiror all of the Company's disaster recovery and security plans, and procedures relating to the Company's Information Systems. To the Company's Knowledge, (i) there have been no unauthorized intrusions or breaches of the security of the Information Systems that would require notification of any individual or Governmental Entity under Applicable Law, and (ii) there has been no unauthorized access, use, or disclosure of any Personal Data in the possession or control of the Company, any Company Subsidiary and any of their respective contractors with regard to any Personal Data obtained from or on behalf of the Company or any Company Subsidiary that would require notification of any individual or Governmental Entity under Applicable Law.

3.14 Related Person Transactions. Except as set forth on Section 3.14 of the Company Disclosure Schedule, there are no Contracts between the Company or any Company Subsidiary, on the one hand, and any Related Person, on the other hand, other than (a) compensation paid to Related Persons in their capacity as employees, or (b) grants for Company Options set forth on Section 3.6(c) of the Company Disclosure Schedule. There have been no transactions during the two-year period ending on the date hereof that would require disclosure if the Company were subject to disclosure under Item 404 of Regulation S-K under the Securities Act. To the Company's Knowledge, no Related Person (i) possesses, directly or indirectly, any financial interest in, or is a director, officer or employee of, any Person which is a material client, supplier, customer, lessor, lessee or competitor of the Company, or (ii) owns any property right, tangible or intangible, which is used by the Company in the conduct of its business.

3.15 Minute Books. The minute books of the Company and the Company Subsidiaries contain a complete and accurate summary in all material respects of all meetings of directors and stockholders (or similar governing bodies) or actions by written consent since the time of incorporation or formation through the date of this Agreement, and reflect all transactions referred to in such minutes accurately in all material respects. All such minutes have been provided to Acquiror.

3.16 Complete Copies of Materials. The Company has delivered or made available true and complete copies of each document referenced in the Company Disclosure Schedule.

3.17 Material Contracts.

(a) All of the Material Contracts of the Company and the Company Subsidiaries are listed in Section 3.17(b) of the Company Disclosure Schedule and a true, correct and complete copy of each such Material Contract has been delivered to Acquiror. With respect to each Material Contract: (i) such Material Contract is legal, valid, binding and enforceable and in full force and effect with respect to the Company or the applicable Company Subsidiary, and, to the Company's Knowledge, is legal, valid, binding, enforceable and in full force and effect with respect to each other party thereto, in either case subject to the effect of bankruptcy, insolvency, moratorium or other similar laws affecting the enforcement of creditors' rights generally and except as the availability of equitable remedies may be limited by general principles of equity; (ii) such Material Contract will continue to be legal, valid, binding and enforceable and in full force and effect immediately following the Effective Time in accordance with its terms as in effect prior to the Effective Time, subject to the effect of bankruptcy, insolvency, moratorium or other similar laws affecting the enforcement of creditors' rights generally and except as the availability of equitable remedies may be limited by general principles of equity; and (iii) none of the Company, any Company Subsidiary, nor, to the Company's Knowledge, any other party, is in breach or default, and no event has occurred that with notice or lapse of time would constitute a breach or default by the Company or any Company Subsidiary, or, to the Company's Knowledge, by any such other party, or permit termination, modification or acceleration, under such Material Contract.

(b) "**Material Contract**" means any Contract to which the Company or any Company Subsidiary is a party:

(i) with expected receipts or expenditures in excess of $100,000;

(ii) that is required to be listed in Section 3.11 of the Company Disclosure Schedule;

(iii) requiring the Company or any Company Subsidiary to indemnify any Person;

(iv) granting any exclusive rights to any party, including any right of first refusal, right of first offer or right of first negotiation;

(v) evidencing Indebtedness (A) of the Company or any Company Subsidiary of $100,000 or more or (B) which creates an Encumbrance on the Company's or any Company Subsidiary's assets;

(vi) involving any partnership, joint venture or limited liability company agreement or concerning any equity or partnership interest in another Person;

(vii) relating to the acquisition or disposition of any business (whether by merger, sale of stock, sale of assets or otherwise);

(viii) that is an employment or employment-related Contract with (A) a Founder, (B) a Key Employee or (C) any other employee of the Company or any

Company Subsidiary that is not terminable at will or that provides an annual cash compensation of more than $225,000;

(ix) that is a Contract with a consultant, independent contractor or any other service provider of the Company or a Company Subsidiary that requires more than one (1) month's notice for termination, or that provides an annual cash compensation of more than $225,000, or that is with a director of the Company;

(x) that is a Contract with an employee, consultant, independent contractor or any other service provider of the Company or a Company Subsidiary that contains any deferred compensation, retention bonus, change of control, severance, gratuity or other similar arrangement for the benefit of the employee, consultant, independent contractor or service provider;

(xi) that is a collective bargaining agreement or other Contract with a labor union, labor organization, or other employee collective representation group that covers any employees of the Company or any Company Subsidiary;

(xii) containing a residuals clause for the benefit of the other party to the Contract;

(xiii) that is a Lease;

(xiv) that is with a Governmental Entity or university;

(xv) that materially limits the ability of the Company or any Company Subsidiary to compete in any line of business or with any Person or in any geographic area or during any period of time;

(xvi) that provides for an outstanding commitment for capital expenditures in excess of $250,000 that would be binding on the Company, any Company Subsidiary or Acquiror after the Closing; or

(xvii) that could reasonably be expected to have a Company Material Adverse Effect if breached by the Company or a Company Subsidiary in such a manner as would (A) permit any other party to cancel or terminate the same (with or without notice of passage of time); (B) provide a basis for any other party to claim money damages (either individually or in the aggregate with all other such claims under that contract) from the Company or a Company Subsidiary; or (C) give rise to a right of acceleration of any material obligation or loss of any material benefit under such Contract.

3.18 Real Estate. Each lease, sublease, sub-sublease, license or other occupancy agreement for real property (each a "**Lease**" and collectively, "**Leases**") to which the Company or a Company Subsidiary is a party is in full force and effect and are valid, binding and enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, moratorium or other similar laws affecting or relating to creditors' rights generally; and general principles of equity, regardless of whether asserted in a proceeding in equity or at law. A true and correct copy of each Lease and any guaranties with respect with respect thereto have

been provided to Acquiror. The Company or the applicable Company Subsidiary has paid all rents, operating expenses and other additional charges in full to the extent such rents, operating expenses and charges are due and payable under each Lease. Section 3.18 of the Company Disclosure Schedule sets forth a complete and accurate list of all Leases and any guaranties with respect thereto. Neither the Company nor any Company Subsidiary owns, or has ever owned, any real property.

3.19 Title to Property. The Company or the applicable Company Subsidiary has good and marketable title to all of its properties, interests in property and assets, real and personal, reflected in the Company Balance Sheet or acquired after the Company Balance Sheet Date (except properties, interests in properties and assets sold or otherwise disposed of since the Company Balance Sheet Date in the ordinary course of business), or with respect to leased and subleased properties and assets, valid leasehold or subleasehold interests (as the case may be) therein, free and clear of all Encumbrances other than Permitted Encumbrances. The plants, property and equipment of the Company and the Company Subsidiaries that are used in the operations of the Company Business are in all material respects in good operating condition and repair, subject to normal wear and tear. All properties used in the operations of the Company and the Company Subsidiaries are reflected in the Company Balance Sheet to the extent required by GAAP.

3.20 Environmental Matters. The Company and each Company Subsidiary is and has been in compliance with all Environmental Laws relating to the properties or facilities owned, used, leased or occupied by the Company and the Company Subsidiaries at any time (collectively, "**Company's Facilities**;" such properties or facilities currently owned, used, leased or occupied by the Company are defined herein as "**Company's Current Facilities**") and with all Permits required by or issued under Environmental Laws, and no discharge, emission, release, leak or spill of Hazardous Materials has occurred at any of the Company's Facilities that may or will give rise to liability of the Company or any Company Subsidiary under Environmental Laws. To the Company's Knowledge, there are no Hazardous Materials (including asbestos) present in the surface waters, structures, groundwaters or soils of or beneath any of the Company's Current Facilities. To the Company's Knowledge, there neither are nor have been any aboveground or underground storage tanks for Hazardous Materials at Company's Current Facilities. No employee of the Company or any Company Subsidiary, or any other Person has claimed that the Company or a Company Subsidiary is liable for alleged injury or illness resulting from an alleged exposure to a Hazardous Material. No Legal Proceeding or investigation is pending against the Company or any Company Subsidiary, or, to the Company's Knowledge, threatened in writing against the Company or any Company Subsidiary, with respect to Hazardous Materials or Environmental Laws; and the Company has no Knowledge of any facts or circumstances that could form the basis for assertion of a claim against the Company or that could form the basis for liability of the Company or any Company Subsidiary, regarding Hazardous Materials or regarding actual or potential noncompliance with Environmental Laws.

3.21 Taxes.

(a) Except as set forth on Section 3.21(a) of the Company Disclosure Schedule, the Company and the Company Subsidiaries have prepared and timely filed all returns, estimates, information statements and reports required to be filed with any taxing authority ("**Returns**") relating to any and all Taxes concerning or attributable to the Company, the Company

Subsidiaries or their operations with respect to Taxes for any period ending on or before the Closing Date and such Returns are true and correct and have been completed in accordance with Applicable Law. All Taxes due and owing (whether or not shown on any Return) have been paid when due.

(b) As of the date hereof, the Company and the Company Subsidiaries have, and as of the Closing Date, will have, (i) timely withheld from their employees, independent contractors, customers, stockholders, and other Persons from whom they are required to withhold Taxes in compliance with all Applicable Law, and (ii) timely paid all amounts so withheld to the appropriate Governmental Entity or taxing authority.

(c) During the period of all unexpired applicable statutes of limitations, the Company and the Company Subsidiaries have not been delinquent in the payment of any Tax. Except as set forth on Section 3.21(c) of the Company Disclosure Schedule, there is no Tax deficiency outstanding or assessed or proposed against the Company or any Company Subsidiary that is not reflected as a liability on the Company Financial Statements, nor has the Company or any Company Subsidiary executed any agreements or waivers extending any statute of limitations on or extending the period for the assessment or collection of any Tax.

(d) Neither the Company nor any Company Subsidiary has any liabilities for unpaid Taxes that have not been accrued for or reserved on the Company Balance Sheet, and neither the Company nor any Company Subsidiary has any Knowledge of any basis for the assertion of any such liability attributable to the Company, any Company Subsidiary or their respective assets or operations.

(e) Neither the Company nor any Company Subsidiary is party to any tax-sharing agreement or similar arrangement with any other party, and neither the Company nor any Company Subsidiary has assumed any obligation to pay any Tax obligations of, or with respect to any transaction relating to, any other Person or agreed to indemnify any other Person with respect to any Tax, other than pursuant to a Contract entered into by the Company in the ordinary course of business the primary purpose of which does not relate to Taxes.

(f) No Returns of the Company or any Company Subsidiary have been audited by a government or taxing authority, nor is any such audit in process or pending, and the Company has not been notified of any request for such an audit or other examination.

(g) Other than any consolidated tax returns of the Company, neither the Company nor any Company Subsidiary has been a member of an affiliated group of corporations filing a consolidated federal income tax return.

(h) The Company has disclosed to Acquiror (i) any Tax exemption, Tax holiday or other Tax-sparing arrangement that the Company or any Company Subsidiary has in any jurisdiction, including the nature, amount and lengths of such Tax exemption, Tax holiday or other Tax-sparing arrangement; and (ii) any expatriate tax programs or policies affecting the Company or any Company Subsidiary. The Company and the Company Subsidiaries are in compliance with all terms and conditions required to maintain such Tax exemption, Tax holiday or other Tax-sparing arrangement or order of any Governmental Entity and the consummation of

the transactions contemplated hereby will not have any adverse effect on the continuing validity and effectiveness of any such Tax exemption, Tax holiday or other Tax-sparing arrangement or order.

(i) The Company has made available to Acquiror copies of all Returns filed by the Company or any Company Subsidiary since inception.

(j) The Company has never been a United States Real Property Holding Corporation within the meaning of Section 897(c)(2) of the Code. No Company Subsidiary has ever been a passive foreign investment company within the meaning of Section 1291 through 1297 of the Code.

(k) The Company has never constituted either a "distributing corporation" or a "controlled corporation" in a distribution of stock qualifying for tax-free treatment under Section 355 of the Code (i) in the two years prior to the date of this Agreement or (ii) in a distribution which could otherwise constitute part of a "plan" or "series of related transactions" (within the meaning of Section 355(e) of the Code) in conjunction with the Closing.

(l) Neither the Company nor any Company Subsidiary has agreed to make, nor is the Company or any Company Subsidiary required to make, any adjustment under Section 481 of the Code or corresponding provision of state, local or foreign law by reason of any change in accounting method.

(m) The Company has complied with applicable information reporting and record maintenance requirements of Sections 6038, 6038A and 6038B of the Code and the regulations thereunder.

(n) Neither the Company nor any Company Subsidiary has ever been a party to any joint venture, partnership or other agreement that could be treated as a partnership for Tax purposes nor has the Company or any Company Subsidiary made a "check-the-box" election under Section 7701 of the Code to be classified as other than a corporation.

(o) There are (and immediately following the Closing there will be) no liens or encumbrances on the assets of the Company or any Company Subsidiary relating to or attributable to Taxes, other than liens for Taxes not yet due and payable.

(p) Neither the Company nor any Company Subsidiary has ever requested or received any private letter ruling from the Internal Revenue Service or comparable rulings from any other government or taxing agency (domestic or foreign).

(q) No power of attorney with respect to Taxes has been granted with respect to the Company or any Company Subsidiary, which power of attorney is currently in effect.

(r) The Company has never distributed any cash to any Stockholder prior to the Closing Date for any reason, including as a dividend, repurchase, or redemption, other than in connection with a repurchase of unvested stock upon termination of employment or other service provider status.

(s) Neither the Company's nor any Company Subsidiary's Returns have ever been subject to a Code Section 482 adjustment or corresponding provision of state, local or foreign law. The Company and the Company Subsidiaries are in compliance with all transfer pricing requirements in all jurisdictions in which the Company or any Company Subsidiary does business. Except as set forth on Section 3.21(s) of the Company Disclosure Schedule, the Company has prepared contemporaneous transfer pricing documentation in every jurisdiction in which the Company or any Company Subsidiary does business and has provided Acquiror with copies of such documentation for the last three (3) taxable years.

(t) No claim has been made by a taxing authority (domestic or foreign) in a jurisdiction where the Company or any Company Subsidiary does not file Returns to the effect that the Company or a Company Subsidiary may be subject to Tax by that jurisdiction. Neither the Company nor any Company Subsidiary has ever had a permanent establishment, as defined in any applicable Tax treaty or convention, outside its country of formation.

(u) Neither the Company nor any Company Subsidiary will be required to include any item of income in, or exclude any item of deduction from, taxable income for any taxable period (or portion thereof) ending after the Closing Date as a result of any: (A) "closing agreement" as described in Section 7121 of the Code (or any corresponding or similar provision of state, local or foreign income Tax law) executed on or prior to the Closing Date; (B) intercompany transactions or any excess loss account described in Treasury Regulations under Section 1502 of the Code (or any corresponding or similar provision of state, local or foreign income Tax law); (C) installment sale or open transaction disposition made on or prior to the Closing Date; or (D) prepaid amount received on or prior to the Closing Date.

(v) The Company and the Company Subsidiaries have (i) not deferred the employer's share of any "applicable employment taxes" under Section 2302 of the CARES Act or any similar state, or local law, (ii) not deferred any payroll Tax obligations (including those imposed by Sections 3101(a) and 3201 of the Code) (for example, by a failure to timely withhold, deposit or remit such amounts in accordance with the applicable provisions of the Code and the Treasury Regulations promulgated thereunder) pursuant to or in connection with IRS Notice 2020-65 or any U.S. presidential memorandum or executive order, and (iii) properly complied with and duly accounted for any credits received under Sections 7001 through 7005 of the Families First Coronavirus Act (Public Law 116-127) and Section 2301 of the CARES Act.

(w) None of the Company Subsidiaries is (i) a "passive foreign investment company" as defined in Section 1297 of the Code with respect to the Company, (ii) a "surrogate foreign corporation" as defined in Section 7874(a)(2)(B) of the Code, or (iii) is subject to U.S. federal income Tax on a net basis under any provision of the Code. The Company has not made an election pursuant to Section 965(h) of the Code.

(x) The Company is not a party to any understanding or arrangement described in Section 6662(d)(2)(C)(ii) of the Code, or has participated in a "reportable transaction" within the meaning of Treasury Regulations Section 1.6011-4.

(y) The Company is not a party to a gain recognition agreement under Section 367 of the Code.

(z) The Company has not incurred (nor has been allocated) an "overall foreign loss" as defined in Section 904(f)(2) of the Code which has not been previously recaptured in full as provided in Section 904(f) of the Code.

(aa) Each share of Company Capital Stock, other than any Company Restricted Share, is property that is "substantially vested" under Section 83 of the Code and Treasury Regulation Section 1.83-3(b). Except as set forth on Section 3.21(aa) of the Company Disclosure Schedule, with respect to each Company Restricted Share, an election has been made under Section 83(b) of the Code and each election made under Section 83(b) of the Code with respect to the issuance of any shares of Company Capital Stock was timely and valid, and each such election is currently in effect and has not been revoked, terminated, or declared invalid.

(bb) There is no agreement, plan, arrangement or other contract covering any employee or other service provider of the Company (or any other entity treated as a member of the Company's affiliated group for purposes of Section 280G(d)(5) of the Code), including arrangements contemplated by this Agreement, that, considered individually or in the aggregate with any other such agreements, plans, arrangements or other contracts, will, or could be expected to, give rise directly or indirectly to the payment of any amount that would be characterized as a "parachute payment" within the meaning of Section 280G(b)(1) of the Code or similar provisions of Applicable Law. There is no agreement, plan, arrangement or other contract by which the Company or any Company Subsidiary is bound to compensate any Person for excise taxes paid pursuant to Section 4999 of the Code. Section 3.21(bb) of the Company Disclosure Schedule lists all Persons who are "disqualified individuals" (within the meaning of Section 280G of the Code and the regulations promulgated thereunder) as determined as of the date hereof.

(cc) No stock options, stock appreciation rights or other equity-based awards issued or granted by the Company or any Company Subsidiary are treated as non-exempt nonqualified deferred compensation arrangements under Section 409A of the Code. All stock options granted by the Company or any Company Subsidiary were granted using an exercise price of not less than the fair market value of the underlying shares in accordance with applicable guidance under Section 409A of the Code. Each "nonqualified deferred compensation plan" (as such term is defined under Section 409A(d)(1) of the Code and the guidance thereunder) under which the Company or any Company Subsidiary makes, is obligated to make or promises to make, payments (each, a "**409A Plan**") complies in both form and operation, with the requirements of Section 409A of the Code and the guidance thereunder. Neither the Company nor any Company Subsidiary is party to any 409A Plan, nor obligated to make any payments with respect to a 409A Plan. No compensation shall be includable in the gross income of any current or former employee, director, or consultant of the Company or any Company Subsidiary as a result of the operation of Section 409A of the Code and no payment to be made under any 409A Plan is or will be subject to the penalties of Section 409A(a)(1) of the Code.

3.22 Employee Benefit Plans.

(a) Section 3.22(a) of the Company Disclosure Schedule contains an accurate and complete list, with respect to the Company and any other Person under common control with the Company within the meaning of Section 414(b), (c), (m) or (o) of the Code, and the regulations issued thereunder (collectively an "**ERISA Affiliate**") of each plan, program,

policy, practice, contract, agreement or other arrangement providing for compensation, severance, termination pay, deferred compensation, performance awards, stock or stock-related options or awards, pension, retirement benefits, provident fund benefits, profit-sharing, savings, disability benefits, medical insurance, dental insurance, health insurance, life insurance, death benefit, other insurance, welfare benefits, fringe benefits or other employee benefits or remuneration of any kind, whether written, unwritten or otherwise, funded or unfunded, including, but not limited to, each "employee benefit plan," within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"), or similar provisions of Applicable Law, which is or has been maintained, contributed to, or required to be contributed to, by the Company or any ERISA Affiliate for the benefit of any current or former employee, director, advisor, contractor or consultant, or for which the Company has any liability (collectively, the "**Company Employee Plans**"). The Company has not made any plan or commitment to establish any new Company Employee Plan, to modify any Company Employee Plan (except to the extent required by law or to conform any such Company Employee Plan to the requirements of any Applicable Law or as expressly required by this Agreement).

(b) Documents. The Company has provided to Acquiror (i) correct and complete copies of all documents embodying each Company Employee Plan including all amendments thereto and all related trust documents (or a summary of any oral Company Employee Plan), (ii) the three most recent annual reports (Form Series 5500 and all schedules and financial statements attached thereto), if any, required under ERISA or the Code in connection with each Company Employee Plan, (iii) if the Company Employee Plan is funded, the most recent annual and periodic accounting of the Company Employee Plan assets, (iv) the most recent summary plan description together with the summary(ies) of material modifications thereto, if any, with respect to each Company Employee Plan, (v) all material written agreements and contracts relating to each Company Employee Plan, including administrative service agreements and group insurance contracts, (vi) each affirmative action plan, if applicable, (vii) all communications material to any employee or employees relating to any Company Employee Plan and any proposed Company Employee Plan, in each case, relating to any amendments, terminations, establishments, increases or decreases in benefits, acceleration of payments or vesting schedules or other events which would result in any liability to the Company or any Company Subsidiary, (viii) all correspondence to or from any governmental agency relating to any Company Employee Plan, (ix) all model Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("**COBRA**") forms and related notices, (x) all policies pertaining to fiduciary liability insurance covering the fiduciaries for each Company Employee Plan, (xi) all discrimination tests for each Company Employee Plan for the three most recent plan years, (xii) all registration statements, annual reports and prospectuses prepared in connection with each Company Employee Plan, to the extent applicable, (xiii) all Health Insurance Portability and Accountability Act of 1996, as amended ("**HIPAA**") privacy notices and all business associate agreements to the extent required under HIPAA, (xiv) the most recent IRS determination or opinion letter issued with respect to each Company Employee Plan and (xv) all rulings or notices issued by a governmental agency with respect to each Company Employee Plan.

(c) Company Employee Plan Compliance. The Company and the Company Subsidiaries have performed in all material respects all obligations required to be performed by them under, are not in default or violation in any material respect of, and the Company has no Knowledge of any default or violation in any material respect by any other party

to, any Company Employee Plan, and each Company Employee Plan has been established and maintained in all material respects in accordance with its terms and in compliance with Applicable Law, including ERISA and the Code. Each Company Employee Plan intended to be qualified under Section 401(a) of the Code and each trust intended to qualify under Section 501(a) of the Code has either (i) applied for a favorable determination letter, prior to the expiration of the requisite remedial amendment period under applicable Treasury Regulations or IRS pronouncements, but has not yet received a response; (ii) obtained a favorable determination, notification, advisory and/or opinion letter, as applicable, on which the employer is entitled to rely, as to its qualified status from the IRS; or (iii) still has a remaining period of time to apply for such a determination letter from the IRS and to make any amendments necessary to obtain a favorable determination and nothing has occurred since the date of the most recent determination that could reasonably be expected to cause any such Company Employee Plan or trust to fail to qualify under Section 401(a) or 501(a) of the Code. No "prohibited transaction," within the meaning of Section 4975 of the Code or Sections 406 and 407 of ERISA, and not otherwise exempt under Section 408 of ERISA, involving the Company or the Company Subsidiaries or, to the Knowledge of the Company, any other Person, has occurred with respect to any Company Employee Plan. There are no actions, suits or claims pending or, to the Knowledge of the Company, threatened or reasonably anticipated (other than routine claims for benefits) against any Company Employee Plan or against the assets of any Company Employee Plan. Except as set forth on Section 3.22(c) of the Company Disclosure Schedule, each Company Employee Plan can be amended, terminated or otherwise discontinued after the Effective Time in accordance with its terms, without liability to Acquiror, the Company, or any ERISA Affiliate (other than ordinary administration expenses). There are no audits, inquiries or proceedings pending or to the Knowledge of the Company or any ERISA Affiliates, threatened by the IRS, DOL, or any other governmental entity with respect to any Company Employee Plan. Neither the Company nor any ERISA Affiliate is subject to any fine, assessment, penalty or other Tax or liability with respect to any Company Employee Plan under Section 502(i) of ERISA or Sections 4975 through 4980 of the Code. The Company or the applicable Company Subsidiary has timely made all contributions and other payments required by and due under the terms of each Company Employee Plan. No event has occurred that could reasonably be expected to give rise to loss of the tax-qualified or tax-exempt status of any Company Employee Plan.

(d) No Pension Plan. Neither the Company nor any ERISA Affiliate has ever maintained, established, sponsored, participated in, or contributed to, any Company Employee Plan that is an "employee pension benefit plan," within the meaning of Section 3(2) of ERISA subject to Part 3 of Subtitle B of Title I of ERISA, Title IV of ERISA or Section 412 of the Code or similar provisions of Applicable Law.

(e) No Self-Insured Company Employee Plan. Neither the Company nor any ERISA Affiliate has ever maintained, established, sponsored, participated in or contributed to any self-insured "group health plan" (within the meaning of Section 5000(b)(1) of the Code) that provides benefits to employees (other than a medical flexible spending account, health reimbursement arrangement or other similar program, including any such plan pursuant to which a stop-loss policy or contract applies).

(f) Collectively Bargained, Multiemployer and Multiple-Employer Plan. At no time has the Company or any ERISA Affiliate contributed to or been obligated to

contribute to any multiemployer plan (as defined in Section 3(37) of ERISA). Neither the Company nor any ERISA Affiliate has at any time ever maintained, established, sponsored, participated in or contributed to any multiple employer plan or to any plan described in Section 413 of the Code.

(g) No Post-Employment Obligations. No Company Employee Plan provides, or reflects or represents any liability to provide, post-termination or retiree life insurance, health or other employee welfare benefits to any Person for any reason, except as may be required by COBRA or other applicable statute, and neither the Company nor any Company Subsidiary has represented, promised or contracted (whether in oral or written form) to any employee (either individually or to employees as a group) or any other Person that such employee(s) or other Person would be provided with life insurance, health or other employee welfare benefits, except to the extent required by statute.

(h) COBRA; FMLA; CFRA; HIPAA. The Company and each ERISA Affiliate has, prior to the date hereof, complied in all material respects with the Patient Protection and Affordable Care Act, as amended, the Health Care and Education Reconciliation Act of 2010, as amended, COBRA, the Family Medical Leave Act of 1993, as amended ("**FMLA**"), the California Family Rights Act of 1993, as amended ("**CFRA**"), HIPAA, the Women's Health and Cancer Rights Act of 1998, the Newborns' and Mothers' Health Protection Act of 1996, and any similar provisions of foreign or state law applicable to its employees or compliance with those provisions has been delegated to a third-party administrator, and the Company does not have any Knowledge of any non-compliance by such administrator. Neither the Company nor any ERISA Affiliate has any unsatisfied obligations to any employees or qualified beneficiaries pursuant to COBRA, HIPAA or any state or statutory local law governing health care coverage or extension.

(i) Effect of Transaction. Except as set forth on Section 3.22(i) of the Company Disclosure Schedule, neither the execution and delivery of this Agreement nor the consummation of the transactions contemplated hereby or any termination of employment or service in connection therewith will (i) result in any payment (including severance, gratuity, golden parachute, bonus or otherwise), becoming due to any employee, (ii) result in any forgiveness of indebtedness, (iii) increase any benefits otherwise payable by the Company or any ERISA Affiliate, (iv) obligate the Company or any ERISA Affiliate to fund any trust, or (v) result in the acceleration of the time of payment or vesting of any such benefits except as required under Section 411(d)(3) of the Code.

(j) No Interference or Conflict. To the Knowledge of the Company, no Stockholder or director, officer, employee or consultant of the Company or any Company Subsidiary is obligated under any Contract, subject to any judgment, decree, or order of any court or administrative agency that would interfere with such Person's efforts to promote the interests of the Company and the Company Subsidiaries or that would interfere with the Company's or any Company Subsidiary's business. Neither the execution nor delivery of this Agreement, nor the carrying on of the business of the Company and the Company Subsidiaries as presently conducted or currently proposed to be conducted nor any activity of such officers, directors, employees or consultants in connection with the carrying on of the business of the Company and the Company Subsidiaries as presently conducted or currently proposed to be conducted will, to the Knowledge of the Company, conflict with or result in a breach of the terms, conditions, or provisions of, or

constitute a default under, any Contract under which any of such officers, directors, employees, or consultants is now bound.

3.23 Employee Matters.

(a) The Company has provided to Acquiror, as of the date of this Agreement, a true, correct and complete list of all directors, officers, and employees (including part-time employees and interns) of the Company and the Company Subsidiaries (redacted where required under Applicable Law), describing for each such individual: (i) date of hire; (ii) name of employer and business location; (iii) job title; (iv) full time or part time status; (v) whether the position is classified as exempt or non-exempt for wage and hour law purposes and workmen or non-workmen for Indian-based employees; (vi) accrued but unused vacation, sick leave, or other paid time off; (vii) any other cash compensation and benefits arrangements; and (viii) immigration status (such list, the "**Company Employee Schedule**").

(b) The Company has provided or made available to Acquiror (i) the employment agreements and any other agreements providing for terms and conditions of employment or engagement with all directors, officers and employees of the Company and the Company Subsidiaries; (ii) any and all agreements related to any such officers and employees' outside employment or engagement with any third party; (iii) all of its written employment policies and current employee handbook as well as a summary of all its unwritten employment customs and practices.

(c) The Company has provided to Acquiror, as of the date of this Agreement, a true, correct and complete list of all of its consultants, advisory board members, independent contractors, and other service providers (including leased and temporary employees) of the Company or any Company Subsidiary, and for each, the name, the nature of the services provided, the start date of the engagement, the length of the engagement, where services are performed, whether the engagement has been terminated by written notice by either party, and the compensation arrangement. The Company has provided copies of all agreements for each of these individuals.

(d) The employment of the employees of the U.S. based employees of the Company and the Company Subsidiaries is terminable at will, without payment of severance or other compensation or consideration, and without advance notice, and the employment of the non-U.S. based employees is terminable only with statutory notice, severance or end-of-service gratuity benefits. None of the employees, consultants, independent contractors or other service providers of the Company or any Company Subsidiary have terminated their employment or engagement nor, to the Company's Knowledge, have threatened or indicated in writing to terminate such employment or engagement, nor has the Company or any Company Subsidiary given notice of termination to any of these individuals. Neither the execution, delivery or performance of this Agreement nor the consummation of any of the transactions contemplated hereunder will or may (either alone or in conjunction with any other event) provide any employees, consultants, independent contractors or other service providers of the Company with a right to terminate their employment or engagement with the Company. Section 3.23(d) of the Company Disclosure Schedule lists all liabilities of the Company or any Company Subsidiary to any employee, consultant, independent contractor or other service provider that result from the

termination by Acquiror, the Company or the applicable Company Subsidiary of such individual's employment or provision of services, a change of control of the Company, or a combination thereof.

(e) The Company and the Company Subsidiaries are in compliance in all material respects with all currently Applicable Laws and regulations respecting employment, employment practices and terms and conditions of employment, including applicant and employee background checks, immigration laws, anti-discrimination, harassment and retaliation laws (including the India Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013), verification of employment eligibility, employee leave laws, classification of workers as employees and independent contractors, classification of employees as exempt and non-exempt, wage and hour laws, employee leasing and joint employer laws, profit-sharing, benefits in kind, remuneration for inventions, overtime work, occupational safety and health laws (including law, rules, regulations and orders related to the COVID-19 pandemic), and termination of employment. There are no proceedings pending or, to the Company's Knowledge, reasonably expected or threatened, between the Company or any Company Subsidiary, on the one hand, and any or all of its current or former employees, on the other hand, including any claims for actual or alleged harassment, discrimination or retaliation based on race, national origin, age, sex, sexual orientation, religion, disability or other protected characteristics, or tortious conduct, breach of contract, wrongful termination, defamation, intentional or negligent infliction of emotional distress, interference with contract or interference with actual or prospective economic disadvantage. There are no claims pending, or, to the Company's Knowledge, reasonably expected or threatened, against the Company or any Company Subsidiary under any workers' compensation or long-term disability plan or policy. The Company or the applicable Company Subsidiary (i) has provided all employees, independent contractors, consultants and other service providers with all wages, salaries, benefits, relocation benefits, stock options, bonuses and commissions, and all other compensation that is due to be paid to or on behalf of such employees, independent contractors, consultants and other service providers, (ii) has withheld and reported all amounts required by law or by agreement to be withheld and reported with respect to wages, salaries and other payments or compensation to employees, and (iii) is not liable for any payment to any trust or other fund governed by or maintained by or on behalf of any Governmental Entity, with respect to unemployment insurance benefits, social security or other benefits or obligations for employees (other than routine payments to be made in the normal course of business and consistent with past practice). Neither the Company nor any ERISA Affiliate has direct or indirect liability with respect to any misclassification of any Person as an independent contractor rather than as an employee, any misclassification of any employee in terms of his or her exempt or non-exempt status under applicable wage and hour laws, or with respect to any employee leased from another employer.

(f) No work stoppage or labor strike against the Company or any Company Subsidiary is pending, or, to the Company's Knowledge, threatened, or reasonably anticipated. The Company has no Knowledge of any activities or proceedings of any labor union, labor organization or other employee collective group to organize any employees. There are no actions, suits, claims, labor disputes or grievances pending or, to the Company's Knowledge, threatened, or reasonably anticipated relating to any labor matters involving any employee, including charges of unfair labor practices. Neither the Company nor any Company Subsidiary has engaged in any unfair labor practices within the meaning of the National Labor Relations Act or any applicable state or local statutory legislation. Neither the Company nor any Company

Subsidiary is presently, nor has it been in the past, a party to, or bound by, any collective bargaining agreement or union contract with respect to employees, nor is there a duty to on the part of the Company or any Company Subsidiary to bargain with any labor union, labor organization or other employee collective groups, and no collective bargaining agreement is being negotiated by the Company or any Company Subsidiary.

(g) There has been no mass layoff, plant closing or similar employment loss at the Company or any Company Subsidiary, at any time, under the federal Worker Adjustment and Retraining Notification Act or any similar state, local or foreign law (collectively, the "**WARN Act**"). Neither the Company nor any Company Subsidiary has incurred any liability or obligation under the WARN Act, nor will they incur any liability or obligation under the WARN Act as a result of the transactions contemplated by this Agreement or that may be based, in whole or in part, on any employment terminations that occur prior to the Effective Time (not including terminations resulting from Acquiror's failure to make comparable offers of employment or continued employment pursuant to the terms of Section 6.8(b).

(h) Except as disclosed on Section 3.23(h) of the Company Disclosure Schedule, there are no outstanding inspection orders or any pending or, to the Knowledge of the Company, threatened charges under the Occupational Safety and Health Administration ("**OSHA**") or any other applicable occupational health and safety legislation with respect to the Company or any Company Subsidiary. The Company and the Company Subsidiaries have complied in all material respects with any Orders issued to it under OSHA or any other applicable occupational health and safety legislation and there are no appeals of any Orders that are currently outstanding.

3.24 Insurance. Section 3.24 of the Company Disclosure Schedule sets forth a list of all insurance policies maintained by the Company or any Company Subsidiary (the policies required to be set forth thereon, the "**Insurance Policies**"), which Insurance Policies are of the type and in the amounts customarily carried by Persons conducting businesses or owning assets similar to those of the Company and the Company Subsidiaries. Each of the Insurance Policies is in full force and effect. The Company or the applicable Company Subsidiary has paid when due all premiums due and payable under all such Insurance Policies. The Company and each Company Subsidiary has complied in all material respects with the provisions of each Insurance Policy under which it is the insured party. No insurance carrier has provided written notice to the Company or any Company Subsidiary that it has cancelled or generally disclaimed coverage or liability under any Insurance Policy or indicated any intent to do so or not to renew any such policy. There are no pending claims against the Insurance Policies by the Company or any Company Subsidiary as to which the insurers have denied liability or where available insurance coverage will be exceeded. Neither the Company nor any Company Subsidiary has received written notice of a default under, or a termination or cancellation of, or an increase in premium with respect to, any of the Insurance Policies.

3.25 Compliance With Laws. The Company and the Company Subsidiaries have complied in all material respects with, and each is currently in compliance in all material respects with, and none of the foregoing have received any written notices of violation with respect to, any Applicable Law with respect to the conduct, ownership or operation of the Company Business.

3.26 Brokers' and Finders' Fee. No broker, finder or investment banker is entitled to brokerage or finders' fees or agents' commissions or investment bankers' fees or any similar charges in connection with the Merger, this Agreement or any transaction contemplated hereby.

3.27 International Trade Matters.

(a) The Company and the Company Subsidiaries are, and at all times have been, in compliance with and have not been and are not in material violation of any International Trade Law. Neither the Company nor any Company Subsidiary has exported any product, or any Company Technology in material violation of any International Trade Law.

(b) The Company or the applicable Company Subsidiary has procured appropriate export licenses and approvals prior to releasing, sharing, or otherwise exporting any technology or technical data to any foreign nationals, wherever located.

(c) Without limiting the foregoing, neither the Company nor any Company Subsidiary has provided, sold to, or otherwise transferred, without any required approval from the U.S. Government, any products, software, hardware, Technology, or services, directly or indirectly, to (i) Cuba, Iran, North Korea, Syria, the Crimea region of the Ukraine, or any other country or territory against which the United States maintains a comprehensive economic embargo ("**Embargoed Territory**"); (ii) any instrumentality, agent, entity, or individual that is acting on behalf of, or directly or indirectly owned or controlled by, any Governmental Entity of an Embargoed Territory; (iii) nationals of Embargoed Territories; or (iv) any organization, entity, or individual appearing on a U.S. Government list of parties with whom companies are prohibited from transacting business including the Specially Designated Nationals and Blocked Persons List, the Foreign Sanctions Evaders List, or the Sectoral Sanctions Identification List, which are maintained by the U.S. Treasury Department's Office of Foreign Assets Control ("**OFAC**"), the Denied Persons List, Entity List, and Unverified List, which are maintained by the Bureau of Industry and Security of the U.S. Department of Commerce, and the List of Debarred Parties maintained by the Directorate of Defense Trade Controls of the U.S. Department of State (the "**Prohibited Party Lists**"), where such activity resulted in a violation of International Trade Law.

(d) None of the Company, any Company Subsidiary, nor to the Knowledge of the Company, any of their respective stockholders, directors, officers, or employees (i) appear on a Prohibited Party List or is Controlled, individually or in the aggregate, by an individual or entity that is on the Prohibited Party List; (ii) is the subject to any applicable sanctions administered or enforced by OFAC or any other relevant sanctions authority; or (iii) is located, organized, or resident in an Embargoed Territory.

(e) Neither the Company nor any Company Subsidiary has participated, directly or indirectly, in any boycotts or other similar practices in violation of, or triggering penalties under, the regulations of the United States Department of Commerce or Section 999 of the Internal Revenue Code.

(f) The Company does not have any basis to expect, nor has the Company, any Company Subsidiary or any other Person for whose conduct the Company is or

may be held to be responsible received, any actual or threatened order, notice, or other communication from any Governmental Entity of any actual or potential violation or failure to comply with any International Trade Law. The Company has not made, and does not intend to make, any disclosure (voluntary or otherwise) to any Governmental Entity with respect to any potential violation or liability of the Company arising under or relating to any International Trade Law. To the Knowledge of the Company, there are no allegations, complaints, charges, investigations or administrative enforcement actions, pending, expected, threatened, or closed by any Governmental Entity with respect to any potential violation or liability of the Company or any Company Subsidiary under or relating to any International Trade Law.

3.28 Anti-Corruption Compliance.

(a) None of the Company, any Company Subsidiary, nor any director, officer, employee, agent or Representative of the Company or any Company Subsidiary (acting on behalf of the Company or any Company Subsidiary):

(i) has been convicted of, or, to the Knowledge of the Company, accused, charged or investigated by any Governmental Entity with any violation of, any Anti-Corruption/AML Law or other Applicable Law related to fraud, theft, embezzlement, bribery, breach of fiduciary responsibility, financial misconduct, obstruction of an investigation, or sanctioned violations;

(ii) has used any funds (whether of the Company or any Company Subsidiary or otherwise) for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity;

(iii) has with a corrupt or improper intention paid, provided, promised, offered, or authorized the payment or provision of money, a financial advantage, or anything else of value to (A) an official, employee, or agent of any government, military, public international organization, state-owned or affiliated entity (including sovereign wealth funds or public hospitals, universities, or research labs), political party, or any instrumentality thereof (collectively "**Government Officials**"), (B) a political party or candidate for political office, or (C) any other Person, for purposes of obtaining, retaining, or directing permits, licenses, favorable tax or court decisions, special concessions, contracts, business, or any other improper advantage;

(iv) has otherwise offered, promised, authorized, provided, or incurred or will in the future offer, authorize, make, pay or receive, directly or indirectly, any bribe, kickback, or other corrupt or unlawful payment, expense, contribution, gift, entertainment, travel or other benefit or advantage (collectively, "**Restricted Benefits**") to or for the benefit of any Government Official, political party or candidate, or any other Person;

(v) has solicited, accepted, or received any Restricted Benefits from any Person;

(vi) has established or maintained any slush fund or other unlawful or unrecorded fund or account;

(vii) has inserted, concealed, or misrepresented corrupt, illegal, or improper payments, expenses or other entries in their books and records;

(viii) is a Government Official or political candidate or has immediate family members who are Government Officials or political candidates;

(ix) has concealed or disguised the existence, illegal origins, and/or illegal application of criminally derived income/assets or otherwise caused such income or assets to appear to have legitimate origins or constitute legitimate assets;

(x) has used any funds to finance terrorist, drug-related, or other illegal activities;

(xi) has violated, caused other parties to violate, or is currently in violation of, directly or indirectly, any provision of any Anti-Corruption/AML Laws or any Applicable Laws of similar effect; or

(xii) has received any communication that alleges any of the foregoing.

(b) The Company has not conducted any internal or government-initiated investigation, or made a voluntary or involuntary disclosure to any Governmental Entity with respect to any alleged act or omission arising under or relating to any noncompliance with any Anti-Corruption/AML Laws. There are no pending or, to the Knowledge of the Company, threatened claims against the Company or any Company Subsidiary with respect to violations of any Anti-Corruption/AML Laws.

3.29 Compliance with Rights of First Refusal. Neither the execution, delivery and performance of this Agreement, nor the consummation of the Merger or any other transaction contemplated by this Agreement, will result in any violation or be in conflict with or constitute, with or without the passage of time and giving of notice, any agreement to which the Company is a party that provides for any right of notice, right of first refusal, right of first offer, right of first negotiation or similar right directly or indirectly applicable to this Agreement, the consummation of the Merger or any other transaction contemplated by this Agreement.

3.30 Bank Accounts. The Company has provided to Acquiror a true and complete list of the names and locations of all banks, trust companies, savings and loan associations and other financial institutions at which the Company or any Company Subsidiary maintains a safe deposit box or account, and the related account numbers and authorized signatories with respect thereto.

4. Representations and Warranties of Acquiror and Merger Sub. Acquiror and Merger Sub represent and warrant to the Company that the statements contained in this Section 4 are true and correct in all material respects.

4.1 Organization, Standing and Power. Acquiror is a corporation duly organized, validly existing and in good standing under the laws of the state of Delaware. Merger Sub is a corporation duly organized, validly existing and in good standing under the laws of the

state of Delaware. Each of Acquiror and Merger Sub has the corporate power to own its properties and to carry on its business as now being conducted and as proposed to be conducted and is duly qualified to do business and is in good standing in each jurisdiction in which the failure to be so qualified and in good standing could reasonably be expected to have a material adverse effect on the ability of Acquiror or Merger Sub to consummate the Merger or the other transactions contemplated hereby.

4.2 Authority.

(a) Acquiror and Merger Sub have all requisite corporate power and authority to enter into this Agreement and to consummate the transactions contemplated hereby. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been, or will have been by the Closing, duly authorized by all necessary corporate action on the part of Acquiror, Merger Sub and Acquiror Parent. This Agreement has been duly executed and delivered by Acquiror and Merger Sub and constitutes the valid and binding obligations of Acquiror and Merger Sub enforceable against Acquiror and Merger Sub in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting or relating to creditors' rights generally, and subject to general principles of equity.

(b) No consent, approval, order or authorization of or registration, declaration or filing with any Governmental Entity is required by or with respect to Acquiror or any of its Subsidiaries in connection with the execution and delivery of this Agreement by Acquiror and Merger Sub or the consummation by Acquiror and Merger Sub of the transactions contemplated hereby, except for (i) the filing of the Certificate of Merger, (ii) filings required pursuant to the HSR Act, and (iii) such other consents, authorizations, filings, approvals and registrations which, if not obtained or made, would not reasonably be expected to have a material adverse effect on the ability of Acquiror or Merger Sub to consummate the Merger or prevent, materially alter or delay any of the transactions contemplated by this Agreement.

4.3 Litigation. Except as set forth in the Acquiror's filings with the SEC, there is no pending Legal Proceeding and, to the knowledge of Acquiror, no Person has threatened in writing to commence any Legal Proceeding against Acquiror or Merger Sub that would reasonably be expected to prevent, materially delay or make illegal the Merger or any of the other transactions contemplated by this Agreement.

4.4 Sufficiency of Funds. Acquiror has and will have, as of the Effective Time, access to sufficient funds to consummate the Merger and the other transactions contemplated hereby on the terms and subject to the conditions set forth herein.

4.5 No Conflict. The execution and delivery of this Agreement by Acquiror and Merger Sub does not, and the consummation of the transactions contemplated hereby will not, conflict with, or result in any violation of, or default under (with or without notice or lapse of time, or both), or give rise to a right of termination, cancellation or acceleration of any material obligation or loss of any material benefit under (i) any provision of the Acquiror's or any of Merger Sub's Organizational Documents, (ii) any Applicable Law, Permit or Order applicable to the Acquiror or Merger Sub or (iii) result in any breach of, constitute a default (or an event that, with

notice or lapse of time or both, would become a default or breach) under or require any consent of any Person pursuant to, any Contract or permit of Acquiror or Merger Sub, as applicable, except, in the case of each of the foregoing clauses "(i)," "(ii)" and "(iii)," for any such conflicts, violations, breaches, defaults or other occurrences that would not, individually or in the aggregate, have a material adverse effect on Acquiror's or Merger Sub's ability to consummate the Merger.

4.6 Non-Reliance. Acquiror acknowledges and agrees that except as expressly set forth in Section 3, none of the Company, the Effective Time Holders, nor any of their respective Representatives has made any representation or warranty, express or implied, to Acquiror, Merger Sub or any of their respective Representatives in connection with this Agreement, the Merger or any of the transactions contemplated hereby.

5. Conduct Prior to the Effective Time.

5.1 Conduct of Business of the Company.

(a) During the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement and the Effective Time (the "**Pre-Closing Period**"), the Company agrees (except to the extent expressly contemplated by this Agreement or as consented to in writing by Acquiror): (i) to carry on the business of the Company and the Company Subsidiaries in the usual regular and ordinary course in substantially the same manner as heretofore conducted; (ii) to pay the debts and Taxes of the Company and the Company Subsidiaries when due subject to (A) any good faith disputes over such debts or Taxes; and (B) Acquiror's consent to the filing of material Returns, if applicable; (iii) to pay or perform other obligations when due; and (iv) to use all reasonable efforts to preserve intact the present business organizations of the Company and the Company Subsidiaries, keep available the services of the present officers of the Company, the Founders and the Key Employees and preserve the relationships of the Company and the Company Subsidiaries with suppliers, licensors, licensees, and others having business dealings with the Company or a Company Subsidiary, to the end that the goodwill and ongoing businesses of the Company and the Company Subsidiaries shall be unimpaired at the Effective Time.

(b) The Company agrees to promptly notify Acquiror of (i) any material event or occurrence not in the ordinary course of the Company Business, and of any event which could reasonably be expected to have a Company Material Adverse Effect; and (ii) any change in its capitalization as set forth in Section 3.6.

(c) Without limiting the foregoing, except as expressly contemplated by this Agreement or as set forth on Section 5.1(c) of the Company Disclosure Schedule, during the Pre-Closing Period neither the Company nor any Company Subsidiary shall, nor shall the Company or any Company Subsidiary permit any of the following, without the prior written consent of Acquiror:

(i) Charter Documents. Cause or permit any amendments to the Organizational Documents of the Company or any Company Subsidiary.

(ii) Dividends; Changes in Capital Stock. Declare or pay any dividends on or make any other distributions (whether in cash, stock or property) in respect of

any of the capital stock or equity securities of the Company or any Company Subsidiary, or split, combine or reclassify any of any of the capital stock or equity securities of the Company or any Company Subsidiary, or issue or authorize the issuance of any other securities in respect of, in lieu of or in substitution for shares or other interests of any of the capital stock or equity securities of the Company or any Company Subsidiary, or repurchase or otherwise acquire, directly or indirectly, any shares or other interests of any of the capital stock or equity securities of the Company or any Company Subsidiaries except from former employees, directors and consultants in accordance with agreements providing for the repurchase of shares in connection with any termination of service to the Company.

(iii) Company Stock Plans, Etc. Accelerate, amend or change the period of exercisability or vesting of Company Options or other equity rights granted under any stock plan of the Company or authorize cash payments in exchange for any options or other rights granted under any of such plans or adopt any form of equity based compensation plan except as expressly contemplated under this Agreement.

(iv) Issuance of Securities. Issue, deliver or sell or authorize or propose the issuance, delivery or sale of, or purchase or propose the purchase of, any shares of the Company's capital stock or securities convertible into, or subscriptions, rights, warrants or options to acquire, or other agreements or commitments of any character obligating the Company to issue any such shares, equity securities or other convertible securities other than the issuance of shares of Company Capital Stock pursuant to the exercise of Company Options outstanding as of the date of this Agreement or the issuance of Company Restricted Stock Units as contemplated by Section 6.8.

(v) Intellectual Property. Enter into or amend any Contracts pursuant to which the Company transfers or licenses to any Person or entity any rights to its Intellectual Property or any other party is granted rights of any type or scope with respect to any of the Company's proposed products or Intellectual Property.

(vi) Dispositions. Sell, lease, license or otherwise dispose of or encumber any of the properties or assets of the Company that are material, individually or in the aggregate, to the Company's business, taken as a whole, other than in the ordinary course of business consistent with past practice.

(vii) Indebtedness. Incur any Indebtedness in excess of $100,000 in the aggregate (excluding, for purposes of this clause (vii) Long Term Contract Liabilities).

(viii) Agreements. Except as expressly contemplated by this Agreement, enter into, terminate or amend (A) any Contract relating to the license, transfer or other disposition or acquisition of Intellectual Property or rights to market or sell Company Products, or (B) any Material Contract or any Contract that would be a Material Contract if in existence on the date hereof.

(ix) Payment of Obligations. Pay, discharge or satisfy, in an amount in excess of $250,000 in the aggregate, any claims, liabilities or obligations (absolute, accrued, asserted or unasserted, contingent or otherwise) arising other than in the ordinary

course of business, other than the payment, discharge or satisfaction of liabilities reflected or reserved against in the Company Financial Statements.

(x) Capital Expenditures. Make any capital expenditures, capital additions or capital improvements, in excess of $250,000 in the aggregate.

(xi) Insurance. Materially reduce the amount of any insurance coverage provided by existing insurance policies.

(xii) Termination or Waiver. Terminate or waive any right of substantial value, other than in the ordinary course of business or forgive, cancel or defer any Indebtedness or waive any claim or rights of material value (including any Indebtedness owing by any holder of the Company's securities, officer, director or employee).

(xiii) Employee Benefit Plans; New Hires; Pay Increases. Except as contemplated by this Agreement or as set forth on Section 5.1(c)(xiii) of the Company Disclosure Schedule, (A) amend any Company Employee Plan, (B) adopt any plan that would constitute a Company Employee Plan, (C) terminate or otherwise change the employment status or position of any current employee, (D) grant, agree to grant or pay any discretionary bonus, special remuneration or special noncash benefit to any employee, officer, director, consultant, independent contractor or other service provider of the Company or any Company Subsidiary (except payments and benefits made pursuant to written agreements outstanding on the date hereof and listed in Section 3.22(a) of the Company Disclosure Schedule), (E) hire any new employee, except in the ordinary course of business consistent with past practices, or (F) increase the benefits, salaries, wage rates or other annual compensation of its employees, officers, directors, consultants, independent contractors or other service providers.

(xiv) Severance Arrangements. Grant, agree to grant or pay any severance, change of control, retention or termination pay or benefits (A) to any director or officer or (B) to any other employee, consultant, independent contractor, or other service provider.

(xv) Lawsuits. (A) Commence a lawsuit other than (I) for the routine collection of bills, (II) in such cases where the Company in good faith determines that failure to commence suit would result in the material impairment of a valuable aspect of the Company Business, provided that the Company consults with Acquiror prior to the filing of such a suit or (III) for a breach of this Agreement; or (B) enter into any settlement agreement with respect to any lawsuit.

(xvi) Acquisitions. Acquire or agree to acquire by merging with, or by purchasing a substantial portion of the stock or assets of, or by any other manner, any business or any corporation, partnership, association or other business organization or division thereof or otherwise acquire or agree to acquire any assets that are material individually or in the aggregate, to its business, taken as a whole.

(xvii) Taxes. Other than in the ordinary course of business, make or change any election in respect of Taxes, including an election under Section 965(h) of the Code, adopt or change any accounting method in respect of Taxes, change an annual

accounting period, file any Return or any amendment to a Return, enter into any closing agreement, settle any claim or assessment in respect of Taxes, or consent to any extension or waiver of the limitation period applicable to any claim or assessment in respect of Taxes.

(xviii) Accounting. Change accounting methods or practices or revalue any of its assets (including writing down the value of inventory or writing off notes or accounts receivable otherwise than in the ordinary course of business), except in each case as required by changes in GAAP or Applicable Law.

(xix) Feedback. Provide to any Person any comments, feedback, suggestions, ideas, know-how or other input related to such Person's Technology or Intellectual Property.

(xx) Other. Take or agree in writing or otherwise to take, any of the actions described in Sections 5.1(c)(i) through (xvix) above, or any action that would cause a material breach of its representations or warranties contained in this Agreement or prevent it from materially performing or cause it not to materially perform its covenants hereunder.

5.2 No Solicitation.

(a) During the Pre-Closing Period, the Company shall not, directly or indirectly through any Company Subsidiary, any officer, director, employee, Representative or agent of the Company or any Company Subsidiary, or otherwise: (i) solicit, initiate, or knowingly encourage any inquiries or proposals that constitute, or could reasonably be expected to lead to, a proposal or offer for a merger, consolidation, share exchange, business combination, sale of all or substantially all assets, sale of shares of capital stock or similar transactions involving the Company other than the transactions contemplated by this Agreement (any of the foregoing inquiries or proposals an "**Acquisition Proposal**"); (ii) engage or participate in negotiations or discussions concerning, or provide any non-public information to any Person or entity relating to, any Acquisition Proposal; or (iii) agree to, enter into, accept, approve or recommend any Acquisition Proposal. The Company represents and warrants that it has the legal right to terminate any pending discussions or negotiations relating to an Acquisition Proposal without payment of any fee or other penalty.

(b) The Company shall notify Acquiror immediately (and no later than twenty-four (24) hours) after receipt by the Company (or its advisors) of any Acquisition Proposal or any request for nonpublic information in connection with an Acquisition Proposal or for access to the properties, books or records of the Company by any Person or entity that informs the Company that it is considering making, or has made, an Acquisition Proposal. Such notice shall be made orally and in writing and shall indicate in reasonable detail the identity of the offeror and the terms and conditions of such proposal, inquiry or contact.

6. Additional Agreements.

6.1 Solicitation Statement.

(a) Within five (5) Business Days after the execution of this Agreement, the Company shall prepare (or complete the preparation of), with the cooperation of Acquiror, a

solicitation statement and notice of stockholder action by less than unanimous written consent (the "**Solicitation Statement**") for the solicitation of approval of the Stockholders describing this Agreement, the Certificate of Merger and the transactions contemplated hereby and thereby. Acquiror shall provide such information about Acquiror as the Company shall reasonably request. The information supplied by the Company for inclusion in the Solicitation Statement shall not, on the date the solicitation statement is first delivered to the Stockholders or at the Effective Time, contain any statement that, at such time, is false or misleading with respect to any material fact, or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they are made, not false or misleading, or omit to state any material fact necessary to correct any statement in any earlier communication that has become false or misleading. Notwithstanding the foregoing, the Company makes no representation, warranty or covenant with respect to any information supplied by Acquiror that is contained in any of the foregoing documents.

(b) Each of Acquiror and the Company agrees to provide promptly to the other such information concerning its business and financial statements and affairs as, in the reasonable judgment of the providing party or its counsel, may be required or appropriate for inclusion in the Solicitation Statement or in any amendments or supplements thereto, and to cause its counsel and auditors to cooperate with the other's counsel and auditors in the preparation of the solicitation statement. The Company will promptly advise Acquiror, and Acquiror will promptly advise the Company, in writing if at any time prior to the Effective Time either the Company or Acquiror shall obtain knowledge of any facts that might make it necessary or appropriate to amend or supplement the Solicitation Statement in order to make the statements contained or incorporated by reference therein not misleading or to comply with Applicable Law. The Solicitation Statement shall (i) contain a statement to the effect that the Board of Directors of Company unanimously determined that the Merger is advisable in accordance with Section 251(b) of Delaware Law and applicable provisions of California Law and in the best interests of the Stockholders and unanimously approved and adopted this Agreement, the Merger and the other transactions contemplated hereby, (ii) provide the Stockholders with notice of the actions taken in the Executed Written Consent, including the approval and adoption of this Agreement, the Merger and the other transactions contemplated hereby in accordance with Section 228(e) of Delaware Law and applicable provisions of California Law (iii) notify such Stockholders of their dissent and appraisal rights pursuant to Section 262 of Delaware Law and applicable provisions of California Law. The Solicitation Statement will include therewith a copy of Section 262 of Delaware Law and applicable provisions of California Law and all such other information as Acquiror shall reasonably request, and shall be sufficient in form and substance to start the twenty (20) day period during which a Stockholder must demand appraisal of such Stockholder's Company Capital Stock as contemplated by 262(d)(2) of Delaware Law and applicable provisions of California Law. All materials submitted to Stockholders in accordance with this Section 6.1 shall be subject to Acquiror's advance review. Anything to the contrary contained herein notwithstanding, the Company shall not include in the Solicitation Statement any information with respect to Acquiror unless the form and content of which information shall have been approved by Acquiror prior to such inclusion.

6.2 Approval of Stockholders. The Company shall promptly after the execution of this Agreement take all action necessary in accordance with the Delaware Law, other Applicable Law and the Restated Certificate and the Bylaws to obtain the Executed Written Consent. Subject

to Section 6.1, the Company shall solicit from all other Stockholders written consents in favor of the Merger and shall use its commercially reasonable efforts secure the vote or consent of such Stockholders.

6.3 Access to Information.

(a) During the Pre-Closing Period, the Company shall afford Acquiror and its accountants, counsel and other representatives, reasonable access to (i) all of the Company's and the Company Subsidiaries' properties, personnel, books, contracts, commitments and records, and (ii) all other information concerning the business, properties and personnel of the Company as Acquiror may reasonably request.

(b) Except where prohibited or deemed advisable by Company to comply with Applicable Law, during the Pre-Closing Period, each of Acquiror and the Company shall confer on a periodic basis with one or more representatives of the other party to report operational matters of materiality outside of the ordinary course of business.

(c) No information or Knowledge obtained in any investigation pursuant to this Section 6.3 or otherwise shall affect or be deemed to modify any representation or warranty contained herein or the conditions to the obligations of the parties to consummate the Merger.

6.4 Confidentiality.

(a) The parties acknowledge that Acquiror (or one of its Affiliates) and the Company have previously executed a Confidentiality Agreement, dated January 6, 2020 (the "**Confidentiality Agreement**"), which Confidentiality Agreement is hereby incorporated herein by reference and shall continue in full force and effect in accordance with its terms, as if such Confidentiality Agreement were entered into directly by each of the parties hereto (other than the Securityholders' Agent); provided that from and after the Closing, all of Acquiror's and its Affiliates obligations under the Confidentiality Agreement shall terminate and be of no further force or effect.

(b) From and after the Closing, except with the prior written consent of Acquiror, the Securityholders' Agent agrees to keep confidential and not disclose (other than to the Effective Time Holders and its and their officers, directors, employees, attorneys and other advisors with a bona fide need to know, provided that such Persons have agreed to the confidentiality restrictions contained herein): (i) matters regarding the interpretation, performance, breach or termination of this Agreement or any agreement executed in connection herewith, and (ii) all confidential and/or proprietary information of the Company or any Company Subsidiary obtained by the Securityholders' Agent or its directors, officers, employees, agents or its other Representatives, except to the extent that (A) such information has otherwise been made public, (B) any such information is reasonably necessary for enforcing the Effective Time Holders' or the Securityholders' Agent's rights hereunder or thereunder and is disclosed to any Governmental Entity in connection with any Legal Proceedings involving a dispute between the Effective Time Holders and Acquiror, or (C) the Securityholders' Agent is required by Applicable Law to divulge or disclose any such information (in which case the Securityholders' Agent shall promptly notify

Acquiror in advance of disclosing such information and use commercially reasonable efforts to cooperate with Acquiror to limit such disclosure, to the extent permitted under Applicable Law).

6.5 Public Disclosure. Prior to the Closing, neither the Company nor the Securityholders' Agent shall issue any press release or otherwise make any public statement or other public (or non-confidential) disclosure (whether or not in response to an inquiry) regarding the terms of this Agreement and the transactions contemplated hereby without the prior approval of Acquiror, except as may be required by Applicable Law or by obligations pursuant to any listing agreement with any national securities exchange. From and after the Closing, the Securityholders' Agent shall not issue any such press release, statement or disclosure without the prior approval of Acquiror, except as may be required by Applicable Law or by obligations pursuant to any listing agreement with any national securities exchange.

6.6 Regulatory Approval; Further Assurances.

(a) Acquiror and the Company will cooperate and use their respective, reasonable best efforts to as promptly as practicable subject to Applicable Law (i) obtain from any Governmental Entity any consent, approval, authorization, declaration, waiver, license, franchise, permit, certificate or order required to be obtained by Acquiror or the Company, in connection with the authorization, execution and delivery of this Agreement and the consummation of the transactions contemplated herein, (ii) obtain, prior to the Closing, all Permits as are necessary for the consummation of the transactions contemplated by this Agreement, (iii) make all required filings, and thereafter make any other required submissions and responses to requests for additional information and documentary materials, with respect to this Agreement required under any Applicable Law, including the HSR Act; provided, however, that Acquiror and the Company shall (and Acquiror shall cause Acquiror Parent to) (A) cooperate with each other in connection with the making of all such filings, submissions and requests for information and (B) promptly furnish to each other all information required for any application or other filing to be made by the other pursuant to any Applicable Law in connection with the transactions contemplated by this Agreement; (iv) give each other prompt notice of any Antitrust investigation, (v) promptly inform the other party of any communication to or from the U.S. Federal Trade Commission, the U.S. Department of Justice, or any other Governmental Entity in connection with any such request, inquiry, or action (and if in writing, furnish the other Party with a copy of such communication) and (vi) request early termination of the waiting period under the HSR Act and take all other actions reasonably necessary consistent with this Section 6.6 to cause the expiration or termination of the applicable waiting periods under the HSR Act or any other Antitrust Law relating to the Merger and the other transactions contemplated hereby. Acquiror and the Company agree to make the necessary filings under the HSR Act no later than five (5) Business Days after execution of this Agreement. Acquiror shall pay the filing fee required under the HSR Act and any fees required for filings with other Governmental Entities; provided, however, each of Acquiror and the Company shall be responsible for its own outside counsel or consultant fees related to obtaining Regulatory Approval for the transactions contemplated under this Agreement.

(b) Notwithstanding anything in this Agreement to the contrary, Acquiror shall, on behalf of the parties, control and lead (i) the scheduling of, and strategic planning for any meeting with any Governmental Entity under the HSR Act or any other applicable Antitrust Law, and (ii) the process and strategy for resolving any pending or threatened request,

inquiry, or Legal Proceeding or investigation brought by a Governmental Entity, or brought by a third party before any Governmental Entity, in each case with respect to the transactions contemplated under this Agreement. In addition, to the extent permitted by Applicable Law, the Company shall promptly make available its personnel and advisers to Acquiror, and, upon Acquiror's request, make such personnel and advisers available for any meetings with any Governmental Entity, in connection with (A) the preparation of any filing made by or on their behalf to any Governmental Entity in connection with the transactions contemplated under the Agreement or (B) any investigation under the Antitrust Laws.

(c) Each of Acquiror and the Company shall use its respective reasonable best efforts to resolve as soon as practicable objections, if any, asserted by any Antitrust Authority with respect to this Agreement or the transactions contemplated hereby. If it is necessary in order to bring about the expiration or termination of the waiting period under the HSR Act, without challenge by any Antitrust Authority, or otherwise resolve any objections, if any, asserted by any Antitrust Authority with respect to this Agreement or the transactions contemplated hereby, then each of the Acquiror and the Company agrees to take all actions reasonably necessary to resolve such objections; provided that Acquiror shall not be required to take any action that would reasonably be expected to result in an impact that is materially adverse to the assets, business, results of operation or financial condition of Acquiror; and provided further that the Company shall not be required to take any action prior to the Closing that would reasonably be expected to result in an impact that is materially adverse to the assets, business, results of operation or financial condition of the Company.

(d) In connection with the foregoing, each of Acquiror and the Company shall use its reasonable best efforts not to participate in any substantive meeting or conversation, or engage in any substantive conversation with any Governmental Entities in respect of any filings or inquiry under any applicable Antitrust Law relating to the Merger, without giving the other party prior notice of the meeting or conversation and, unless denied by such Governmental Entity, the opportunity to attend and/or participate therein; provided that, to the extent the Company is unable to participate in any such meeting or conversation after being provided reasonable advance notice, Acquiror shall not be required to cancel or reschedule such meeting or conversation.

(e) Subject to the provisions of this Agreement and without limiting the foregoing, Acquiror and the Company shall (and Acquiror shall cause Acquiror Parent to) use commercially reasonable efforts to take, or cause to be taken, all actions necessary to effectuate the Merger and the other transactions contemplated by this Agreement. Without limiting the generality of the foregoing, but subject to the other provisions of this Agreement, each of Acquiror and the Company shall: (i) make any filings and give any notices required to be made and given by such party in connection with the Merger and the other transactions contemplated by this Agreement; and (ii) at the direction of Acquiror (and subject to the Company's consent, not to be unreasonably conditioned, withheld or delayed), use commercially reasonable efforts to obtain any consent required to be obtained (pursuant to any Applicable Law or otherwise) by such party in connection with the Merger and the other transactions contemplated by this Agreement. Each party (with respect to the Securityholders' Agent, after the Closing), at the reasonable request of the other party, shall execute and deliver such other instruments and do and perform such other

acts and things as may be necessary or desirable for effecting completely the consummation of this Agreement and the transactions contemplated hereby.

6.7 Notification of Certain Matters. Each of the Company and Acquiror shall (and Acquiror shall cause Acquiror Parent to) give prompt (and in any event no less than 48 hours) notice to the other if any of the following occurs during the Pre-Closing Period:

(a) receipt of any notice of, or other communication relating to, a default, or event which with notice or lapse of time or both would become a default, under any Material Contract;

(b) receipt of any notice or other communication in writing from any Person alleging that the consent of such Person is or may be required in connection with the transactions contemplated by this Agreement;

(c) receipt of any notice or other communication from any Governmental Entity in connection with the transactions contemplated by this Agreement;

(d) the occurrence or non-occurrence of any fact or event which could reasonably be expected to cause the Closing conditions set forth in Section 7.1 or Section 7.2 not to be satisfied;

(e) the commencement of any action involving or affecting the Company, any Company Subsidiary or any of their respective properties or assets that would reasonably be expected to be material to the Company; and

(f) the occurrence or non-occurrence of any fact or event that causes or is reasonably likely to cause a breach by the Company or Acquiror of any provision of this Agreement applicable to it;

provided, that the delivery of any notice by any party pursuant to this provision shall not modify any representation or warranty of such party, cure any breaches thereof or limit or otherwise affect the rights or remedies available hereunder to the other parties and the failure of the party receiving such information to take any action with respect to such notice shall not be deemed a waiver of any breach or breaches to the representations or warranties of the party disclosing such information.

6.8 Employees.

(a) Subject to Applicable Law, during the Pre-Closing Period, the Company will use commercially reasonable efforts in consultation with Acquiror to retain the employees of the Company, including the Founders and the Key Employees, through the Effective Time and following the Merger.

(b) As promptly as practicable following the date of this Agreement, Acquiror may offer employment to any or all of the employees of the Company and the Company Subsidiaries (other than the Key Employees) who satisfy Acquiror's generally applicable employment requirements, with a base salary or wage rate, as applicable, that is no less favorable

than a similarly-situated employee of Acquiror and other compensation and benefits that are no less favorable than the compensation and benefits in the aggregate enjoyed by similarly-situated employees of Acquiror or is Affiliates (excluding equity compensation, severance pay and benefits, and defined benefit pension plan benefits). Acquiror may also seek written confirmation from any employee of the Company or a Company Subsidiary that such employee intends to continue employment after the Closing. Acquiror may engage or continue to engage the services of any or all of the consultants and/or independent contractors of the Company and the Company Subsidiaries on terms satisfactory to Acquiror. The Company shall use commercially reasonable efforts to facilitate such offers and engagements.

(c) To the extent permitted by the applicable employee benefit plan and reasonably practicable, Acquiror or its designated Affiliate shall use commercially reasonable efforts to give Continuing Employees full credit for all periods of employment with the Company and the Company Subsidiaries prior to the Closing Date for all purposes of eligibility to participate, vesting credit, and level of benefits under the employee benefit plans or arrangements maintained by Acquiror or its designated Affiliate in which such Continuing Employees participate following the Closing Date (excluding, for clarity, any equity awards), provided that no such credit will result in a duplication of benefits or require any retroactive contributions. At the Closing (or at the first practicable payroll after the Closing, as applicable), (i) Continuing Employees that are exempt US employees will receive a payout of all unused paid-time-off and vacation balances, (ii) with regards to Continuing Employees that are US non-exempt employees, unused accrued paid-time-off and vacation balances will transfer to Acquiror, subject to Acquiror's policies and maximum limits, (iii) with regards to Continuing Employees that are Canadian and UK employees, unused vacation and holiday balances will transfer to Acquiror, subject to Acquiror' policies and maximum limits and (iv) any paid-time-off, vacation and/or holiday balances in excess of Acquiror's maximum limits will be paid out to the applicable Continuing Employees. With respect to any welfare benefit plans maintained by Acquiror or its designated Affiliate for the benefit of Continuing Employees on and after the Closing Date, Acquiror shall, to the extent permitted by the applicable welfare benefit plan, use commercially reasonable efforts to, (i) cause there to be waived any eligibility requirements to the extent satisfied under any comparable plans of the Company immediately prior to the Closing Date; and (ii) subject to Acquiror receiving all necessary information with respect thereto (including a Continuing Employee's actual out of pocket payments and deductibles) give effect, in determining any deductible and maximum out of pocket limitations, to amounts paid by such Continuing Employees in the year of the Closing Date with respect to similar plans maintained by the Company or any Company Subsidiary.

(d) To the extent permitted by the applicable plan, Acquiror shall use commercially reasonable efforts to permit Continuing Employees to make rollover contributions to a defined contribution plan qualified under Section 401(a) of the Code sponsored or maintained by Acquiror or one of its Affiliates of "eligible rollover distributions" (within the meaning of Section 401(a)(31) of the Code) in the form of cash, notes (in the case of loans) or a combination thereof in an amount equal to the full account balance (including earnings thereon) distributed to such Continuing Employee from the 401(k) Plan.

(e) During the Pre-Closing Period on at least a weekly basis, the Company shall update the Company Employee Schedule, in accordance with Section 3.23(a), to reflect any and all changes in any information listed on the Company Employee Schedule,

including any changes in compensation and any terminations or new hires of employees of the Company or any Company Subsidiary. For clarity, any terminations or new hires shall be effected in compliance with the terms and conditions of this Agreement, including Section 5.1(c).

(f) Prior to the Closing, the Company's Board of Directors shall grant to each holder of Early Exercise Restricted Shares that is a Continuing Employee or Continuing Independent Contractor a number of Company Restricted Stock Units equal to (i) (A) the number of Early Exercise Restricted Shares held by such holder as of immediately prior to the Effective Time, multiplied by the Per Share Consideration, minus (B) the aggregate exercise price paid by such holder for such Early Exercise Restricted Shares, divided by (ii) the Per Share Consideration, rounded down to the nearest whole number. Such grant of Company Restricted Stock Units shall be conditioned on such holder's execution of a grant notice, which shall include a release of claims, in substantially the form attached hereto as Exhibit G (a "**New RSU Grant Notice**"). The Company Restricted Stock Units granted pursuant to this Section 6.8(f) shall vest over the same period of time as the Early Exercise Restricted Shares would have vested; provided that such Company Restricted Stock Units shall vest on a quarterly basis, as set forth on Schedule 6.8(f) instead of monthly.

(g) Prior to the Closing, the Company's Board of Directors shall take such action as shall be necessary in order to amend the exercise price of the Company Options referenced on Schedule 6.8(g) (the "**Specified Options**") to an amount not less than the "fair market value" of the underlying Company Common Stock on the date of grant in accordance with correction methods provided in IRS Notice 2008-113. The Company shall provide evidence of such correction to the Acquiror in a form and substance reasonably satisfactory to Acquiror.

(h) Prior to the Closing, the Company's Board of Directors shall take such action as shall be necessary in order to grant to each Person that is a counterparty to an offer letter set forth on Schedule 6.8(h) that is a Continuing Employee or Continuing Independent Contractor:

(i) with respect to that portion of the Company Option promised to such Person in such Person's offer letter (a "**Pre-Signing Promised Option**") that would have been unvested as of the Closing had such Pre-Signing Promised Option been issued prior to the Closing, a number of Company Restricted Stock Units equal to:

(A) (I) the number of shares of Company Common Stock issuable upon exercise of such Pre-Signing Promised Option that would have been unvested as of the Closing, multiplied by the Per Share Consideration, minus (II) an amount equal to the per share exercise price of the most recently issued Company Options issued prior to the date hereof (prior to any correction pursuant to Section 6.8(g)), multiplied by such number of unvested shares, divided by

(B) the Per Share Consideration, rounded down to the nearest whole number, and

(ii) in the event that a portion of the Pre-Signing Promised Option would have been vested as of the Closing, grant to such holder a cash bonus payment

(a "**Promised Option Bonus Payment**"), payable upon the Closing, equal to (A) the number of shares of vested Company Common Stock that would have been issuable upon exercise of such Pre-Signing Promised Option, multiplied by the Per Share Consideration, minus (B) what would have been the aggregate exercise price of such vested portion of the Pre-Signing Promised Option.

Such grant of Company Restricted Stock Units and payment of any Promised Option Bonus Payment shall be conditioned on the applicable Person's execution of a grant notice (a "**Promised Option RSU Grant Notice**") (and, if applicable, bonus acknowledgment) in form and substance reasonably satisfactory to Acquiror, which shall include a release of claims. The Company Restricted Stock Units granted pursuant to this Section 6.8(h) shall vest over the same period of time as the applicable Pre-Signing Promised Option would have vested; provided that such Company Restricted Stock Units shall vest on a quarterly basis, as set forth on Schedule 6.8(f) instead of monthly.

(i) Prior to the Closing, the Company's Board of Directors shall take such action as shall be necessary in order to accelerate, as of the Closing, the vesting of the restricted stock award referenced on Schedule 6.8(i); provided that the recipient thereof is a Continuing Independent Contractor.

(j) Prior to the Closing, the Company's Board of Directors shall take such action as shall be necessary in order to grant to each Person that commences employment prior to the Closing and is a Continuing Employee (a "**New Hire**"):

(i) if such New Hire was offered a Company Option in such New Hire's executed offer letter, a number of Company Restricted Stock Units equal to (A) (I) the number of shares of Company Common Stock issuable upon exercise of such Company Option, minus (II) an amount equal to the per share exercise price of the most recently issued Company Options issued prior to the date hereof (prior to any correction pursuant to Section 6.8(g)), multiplied by the number of shares of Company Common Stock issuable upon exercise of such Company Option, divided by (B) the Per Share Consideration, rounded down to the nearest whole number, and

(ii) if such New Hire was offered Company Restricted Stock Units in such New Hire's executed offer letter, that number of Company Restricted Stock Units offered to such Person, with any per share calculations with respect thereto based on the Per Share Consideration.

Such grant of Company Restricted Stock Units shall be conditioned on the applicable New Hire's execution of a grant notice in form and substance reasonably satisfactory to Acquiror, which shall include a release of claims. The Company Restricted Stock Units granted pursuant to this Section 6.8(j) shall vest over the same period of time as was promised in the applicable offer letter; provided that such Company Restricted Stock Units shall vest on a quarterly basis, as set forth on Schedule 6.8(f) instead of monthly.

(k) The parties hereto acknowledge and agree that the terms set forth in this this Section 6.8 shall not create any right in any employee of the Company or any Company

Subsidiary, or any other Person, to any continued employment with the Surviving Corporation, Acquiror or any of its Affiliates or compensation or benefits of any nature or kind whatsoever.

6.9 Expenses. Whether or not the Merger is consummated and except as expressly set forth herein, all costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby shall be paid by the party incurring such expense. For purposes of clarity, the Effective Time Holders shall be responsible for the Transaction Expenses from and after the Closing.

6.10 Release and Termination of Security Interests. The Company shall use its commercially reasonable efforts to seek and obtain the release of any and all outstanding security interests in any of the Company's or a Company Subsidiary's assets and to terminate all UCC financing statements which have been filed with respect to such security interests.

6.11 Required Contract Consents. To the extent requested by Acquiror, the Company shall use its reasonable efforts to obtain (a) the consent to any Contract for which consent is required in connection with the Merger or the other transactions contemplated by this Agreement, and (b) the terminations set forth on Schedule7.2(q), and shall deliver such consents and terminations to Acquiror.

6.12 Tax Matters.

(a) Allocation of Taxes. In the case of any Taxes relating to a Tax period that includes (but does not end on) the Closing Date (the "**Straddle Period**"), the portion of such Tax which relates to the Pre-Closing Tax Period shall (i) in the case of any Taxes other than Taxes based upon or related to income, gains or receipts, be deemed to be the amount of such Tax for the entire Straddle Period *multiplied by* a fraction the numerator of which is the number of days in the Pre-Closing Tax Period and the denominator of which is the number of days in the entire Straddle Period, and (ii) in the case of any Tax based upon or related to income, gains or receipts be deemed equal to the amount which would be payable if the relevant Straddle Period ended on the Closing Date.

(b) Preparation of Returns. Acquiror shall prepare or cause to be prepared and file or cause to be filed all Returns for the Company any the Company Subsidiaries for the Pre-Closing Tax Period and Straddle Period that are required to be filed after the Closing Date. All Returns filed by Acquiror after the Closing Date will be prepared in a manner consistent with the past practice and custom of the Company to the extent consistent with Applicable Law. Acquiror shall permit the Securityholders' Agent to review and comment on each income and other material Tax Return relating to or including a Pre-Closing Tax Period at least thirty (30) days prior to filing and shall consider in good faith any requested revisions.

(c) Tax Contests. After the Closing Date, Acquiror, the Company and the Securityholders' Agent, respectively, shall inform the other party in writing of the commencement of any claim, audit, investigation, examination, or other proceeding or self-assessment relating in whole or in part to Taxes for a Pre-Closing Tax Period ("**Tax Contest**") for which Acquiror may be entitled to indemnity from the Effective Time Holders under this Agreement. After the Closing Date, Acquiror shall have the exclusive right to represent the

interests of the Company in any and all Tax Contests; provided, however, that the Securityholders' Agent shall have the right to participate in any such Tax Contest and to employ counsel at the Effective Time Holders' expense of its choice (which counsel shall be reasonably acceptable to Acquiror) for purposes of such participation to the extent that any such Tax Contest could reasonably be expected to result in a Tax indemnification liability of the Effective Time Holders pursuant to this Agreement. In the event that Acquiror proposes to compromise or settle any Tax Contest, or consent or agree to any Tax liability, relating to the Company or any Company Subsidiary that would result in an indemnity payment by the Effective Time Holders, the Securityholders' Agent shall have the right to review such proposed compromise, settlement, consent or agreement. Acquiror shall not agree or consent to compromise or settle any Tax Contest on a basis that would result in a Tax liability of the Company or the Company Subsidiaries for a Pre-Closing Tax Period or liability of the Effective Time Holders for indemnification unless the Securityholders' Agent consents to such settlement, compromise or concession, which consent will not be unreasonably withheld, conditioned or delayed. In the case of a conflict between the provisions of this Section 6.12(c) and the provisions of Section 9, the provisions of this Section 6.12(c) shall control.

(d) Cooperation. Acquiror and the Securityholders' Agent shall cooperate fully as and to the extent reasonably requested by the other party in connection with the preparation and filing of any Return required of the Company or any Company Subsidiary, and the defense of any Tax Contest, claim, audit, litigation or other proceeding, with respect to Taxes which may be payable by the Company or any Company Subsidiary for a Pre-Closing Tax Period. Acquiror, the Company and the Securityholders' Agent agree to abide by all record retention requirements of, or record retention agreements entered into with, any Tax authority.

(e) Certain Taxes and Fees. All transfer, documentary, sales, use, stamp, registration, value added and other such Taxes, and all conveyance fees, recording charges and other fees and charges (including any penalties and interest) incurred in connection with the consummation of the transactions contemplated by this Agreement shall be borne and paid fifty percent (50%) by the Effective Time Holders and fifty percent (50%) by Acquiror when due. The party responsible under Applicable Law for submitting payment of such Taxes to the applicable Tax authority shall file all necessary Returns and other documentation with respect to all such transfer, documentary, sales, use, stamp, registration and other Taxes and fees. If required by Applicable Law, Acquiror or the Company shall join in the execution of any such Returns and other documentation.

6.13 D&O Indemnification Matters.

(a) If the Merger is consummated, then until the sixth anniversary of the Effective Time, the Surviving Corporation shall, and Acquiror shall cause (and Acquiror shall cause Acquiror Parent to cause) the Surviving Corporation or its successors to, fulfill and honor in all respects the obligations of the Company to its current and former directors and officers (the "**Company Indemnified Parties**") pursuant to any indemnification, exculpation or expense advancement provisions under the Restated Certificate or the Bylaws (as in effect on the date hereof) and pursuant to any indemnification agreements between the Company and such Company Indemnified Parties in effect as of the date hereof (the "**Company Indemnification Provisions**"), with respect to claims arising out of matters, acts or omissions occurring at or prior to the Effective

Time (regardless of whether any proceeding relating to any Company Indemnified Party's rights to indemnification, exculpation or expense advancement with respect to any such matters, acts or omissions is commenced before or after the Effective Time). Any claims for indemnification made under this Section 6.13(a) on or prior to the sixth anniversary of the Effective Time shall survive such anniversary until the final resolution thereof.

(b) Prior to the Closing, the Company shall purchase a fully prepaid "tail" policy under the Company's existing directors' and officers' liability insurance policy, which (i) has an effective term of six years from the Effective Time, (ii) covers those persons who are currently covered by the Company's existing directors' and officers' liability insurance policy in effect as of the date hereof for matters, acts or omissions occurring at or prior to the Effective Time and (iii) contains other coverage terms comparable to those under the Company's existing directors' and officers' liability insurance policy (the "**D&O Tail Policy**"). The cost of the D&O Tail Policy shall be treated as a Transaction Expense hereunder. If the Merger is consummated, then Acquiror will not cancel the D&O Tail Policy during its term.

(c) Notwithstanding the foregoing, no such Company Indemnified Party will have any right of indemnification or right of advancement from the Surviving Corporation or its successors or Acquiror pursuant to this Section 6.13 with respect to any Damages recoverable by any of the Acquiror Indemnified Persons from such Company Indemnified Party in his or her capacity as an Effective Time Holder pursuant to Section 9.

6.14 280G Approval. The Company shall engage a "Big Four" accounting firm with expertise in preparing calculations relating to Section 280G of the Code to prepare an analysis for the Company no later than ten (10) Business Days prior to the Closing Date. As promptly as practicable after the date hereof (but in no event later than five (5) Business Days prior to the Closing Date) and provided that Acquiror has provided the Company with a description of any payment or benefit that Acquiror or its Affiliates intends to offer to any person who may receive a parachute payment within the meaning of Section 280G of the Code and the Treasury Regulations thereunder (collectively, "**Section 280G**"), the Company shall submit to the Stockholders, for approval by the Stockholders holding the number of shares of Company Capital Stock required by the terms of Section 280G(b)(5)(B) of the Code, a written consent in favor of a single proposal to render the parachute payment provisions of Section 280G inapplicable to any and all payments and/or benefits provided pursuant to Company Employee Plans or other plans, programs, arrangements or contracts that might result, separately or in the aggregate, in the payment of any amount and/or the provision of any benefit that causes the payments and/or benefits to not be deductible by reason of Section 280G or that would be subject to an excise tax under Section 4999 of the Code (together, the "**Section 280G Payments**"). Such Stockholder approval and consent materials, including the calculations prepared by the Company or the Company's advisors to determine the Section 280G Payments (collectively, the "**280G Information Statement**"), shall be subject to prior review by Acquiror, and such review shall not be unreasonably withheld or delayed. Any such Stockholder approval shall be sought by the Company in a manner which satisfies all applicable requirements of Section 280G(b)(5)(B) of the Code and the Treasury Regulations thereunder, including Q-7 of Section 1.280G-1 of such Treasury Regulations. The Company agrees that: (i) in the absence of such Stockholder approval, no Section 280G Payments shall be made; and (ii) promptly after the date hereof (but in no event later than two (2) Business Days prior to the submission to its Stockholders of the 280G Information Statement), the Company

shall deliver to Acquiror a waiver, in a form substantially similar to the form attached hereto as Exhibit J (each, a "**280G Waiver**"), of the right to receive Section 280G Payments duly executed by each Person who might receive a Section 280G Payment.

6.15 Termination of 401(k) Plan. Unless otherwise requested by Acquiror in writing no less than three Business Days prior to the Closing Date, immediately prior to the Closing, the Company will terminate any Company Employee Plans that are "employee benefit plans" within the meaning of ERISA, including the Company's 401(k) Plan (the "**401(k) Plan**") or to the extent the Company does not maintain but participates in a Company Employee Plan maintained by an ERISA Affiliate, the Company will terminate its participation in such Company Employee Plan, to be effective on the date immediately preceding the Effective Time and contingent upon the Closing.

6.16 Form S-8. Acquiror will use commercially reasonable efforts to cause the Acquiror Parent Common Stock issuable upon exercise of the assumed Company Options or settlement of assumed Company Restricted Stock Units for which a Form S-8 registration statement is available to be registered with the SEC on Form S-8 no later than thirty (30) days following the Closing Date (assuming timely receipt of the Payment Schedule, all option and restricted stock unit documentation relating to the Company Options and Company Restricted Stock Units outstanding immediately prior to the Effective Time and all signatures, opinions and consents required for such registration statement), will exercise commercially reasonable efforts to maintain the effectiveness of such registration statement for so long as such assumed Company Options and Company Restricted Stock Units remain outstanding and will reserve a sufficient number of shares of Acquiror Parent Common Stock for issuance upon exercise or settlement thereof. If so requested by Acquiror, prior to the Effective Time, the Company and its counsel shall reasonably cooperate with and assist Acquiror in the preparation of such registration statement. The Form S-8 registration statement shall not cover the shares of Acquiror Parent Common Stock subject to any Company Options or Restricted Stock Units assumed by Acquiror which are held by Persons who do not become employees of the Acquiror at the Effective Time or do not otherwise have a service relationship with the Acquiror at the Effective Time.

6.17 Resale Registration Statement.

(a) Provided that all recipients of Acquiror Parent Shares and potential recipients of Holdback Shares, Additional Holdback Shares and Dividend Shares have adequately and timely provided Acquiror with all selling shareholder information required to be included therein, Acquiror shall use commercially reasonable efforts to (i) file, or cause to be filed, with the SEC within thirty (30) days of the Closing, a shelf registration statement on Form S-3 (the "**Resale Shelf**") registering the resale of the Acquiror Parent Shares, the Holdback Shares, the Additional Holdback Shares and the Dividend Shares, (ii) have the Resale Shelf declared effective by the SEC as promptly as practicable after such filing (if it does not become effective automatically upon such filing), and (iii) maintain the effectiveness of the Resale Shelf until the latest to occur of (A) the date that the Acquiror Parent Shares and any Dividend Shares issued pursuant to this Agreement, the Holdback Shares and the Additional Holdback Shares issued pursuant to any Holdback Agreement, and any Indemnification Shares issued pursuant to any Founder Share Acknowledgment Agreement are no longer Registrable Securities (as provided in the definition therein), (B) the last date on which Acquiror Parent Shares or Indemnification Shares may be

issued, as provided in the Founder Share Acknowledgment Agreements, and (C) the last date on which Holdback Shares or Additional Holdback Shares may be issued, as provided in any Holdback Agreement.

(b) Notwithstanding Section 6.17(a):

(i) Acquiror shall not be required to (A) file the Resale Shelf (or any amendment thereto) or (B) if the Resale Shelf has been filed but not declared effective by the SEC, request effectiveness of such Resale Shelf for up to sixty (60) calendar days by providing written notice (a "**Suspension Notice**") to the Securityholders' Agent stating that Acquiror has determined in its reasonable good faith judgment that the filing of the Resale Shelf (or any amendment thereto) or the request for effectiveness of such Resale Shelf should be delayed (as applicable); provided that Acquiror may not invoke a delay or suspension pursuant to this Section 6.17(b)(i) for more than sixty (60) calendar days in the aggregate in any twelve (12) month period. The delay shall only continue for so long as the event that was the basis for such Suspension Notice or its effective is continuing. Acquiror shall not include any material non-public information in the Suspension Notice or otherwise provide such information to the Securityholders' Agent unless specifically requested in writing (which disclosure shall nonetheless be in Acquiror's discretion).

(ii) No holder of Registrable Securities will be permitted to sell any Registrable Securities pursuant to the Resale Shelf at any time that Acquiror Parent restricts trading in Acquiror Parent securities by its Affiliates and other designated employees subject to the trading windows under Acquiror Parent's Insider Trading Policy, and Acquiror shall provide (or cause to be provided) notice to the holders of Registrable Securities of any suspension, and subsequent removal of such suspension, of permitted trading in Acquiror Parent's securities.

(c) Each Founder and Founder Transferee is an intended third party beneficiary of this Section 6.17.

7. Conditions to the Merger.

7.1 Conditions to Obligations of Each Party to Effect the Merger . The respective obligations of each party to this Agreement to consummate and effect this Agreement and the transactions contemplated hereby shall be subject to the satisfaction at or prior to the Effective Time of each of the following conditions, any of which may be waived, in writing, by agreement of all the parties hereto:

(a) Stockholder Approval. This Agreement and the Merger shall be approved by the Stockholders by the requisite vote under Delaware Law, other Applicable Law and the Restated Certificate.

(b) Regulatory Approval. The waiting periods applicable to the consummation of the Merger under the HSR Act (or any extension thereof) shall have expired or been terminated.

(c) No Injunctions or Restraints; Illegality. No Order or other legal or regulatory restraint or prohibition preventing the consummation of the Merger shall be and remain in effect, nor shall any Legal Proceeding brought by a Governmental Entity seeking any of the foregoing be pending, nor shall there be any action taken, or any statute, rule, regulation or order enacted, entered, enforced or deemed applicable to the Merger, which makes the consummation of the Merger illegal.

7.2 Additional Conditions to the Obligations of Acquiror and Merger Sub . The obligations of Acquiror and Merger Sub to consummate and effect this Agreement and the transactions contemplated hereby shall be subject to the satisfaction at or prior to the Effective Time of each of the following conditions, any of which may be waived, in writing, by Acquiror:

(a) Representations, Warranties and Covenants. (i) The representations and warranties of the Company in this Agreement, other than the Fundamental Representations and the representations and warranties of the Company in Section 3.11 and Section 3.12, shall be true and correct in all respects (without giving effect to any qualifications as to materiality or "Company Material Adverse Effect,") on and as of the date of this Agreement and on and as of the Closing Date as though such representations and warranties were made on and as of such time (except for such representations and warranties that speak specifically as of the date hereof or as of another date, which shall be true and correct as of such date), except where the failure of such representations and warranties to be so true and correct would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect; (ii) the representations and warranties of the Company contained in Section 3.11 and Section 3.12 shall be true and correct in all material respects (without giving effect to any qualifications as to materiality or "Company Material Adverse Effect,") on and as of the date of this Agreement and on and as of the Closing Date as though such representations and warranties were made on and as of such time (except for such representations and warranties that speak specifically as of the date hereof or as of another date, which shall be so true and correct as of such date); (iii) the representations and warranties of the Company contained in Section 3.6 shall be true and correct (other than *de minimis* inaccuracies) on and as of the date of this Agreement and on and as of the Closing Date as though such representations and warranties were made on and as of such time (except for such representations and warranties that speak specifically as of the date hereof or as of another date, which shall be true and correct as of such date); and (iv) the representations and warranties of the Company contained in Section 3.1, Section 3.2, Section 3.3, Section 3.21 and Section 3.26 shall be true and correct in all respects on and as of the date of this Agreement and on and as of the Closing Date as though such representations and warranties were made on and as of such time (except for such representations and warranties that speak specifically as of the date hereof or as of another date, which shall be true and correct as of such date).

(b) Performance of Obligations. The Company shall have performed and complied in all material respects with all covenants, agreements, obligations and conditions of this Agreement required to be performed and complied with by it as of the Closing.

(c) Certificate of Officers. Acquiror and Merger Sub shall have received a certificate executed on behalf of the Company by the Company's Chief Executive certifying that the conditions set forth in Sections 7.2(a), 7.2(b) and 7.2(i) have been satisfied.

(d) Secretary's Certificate. Acquiror and Merger Sub shall have received from Company's Secretary, a certificate having attached thereto (i) the Restated Certificate as in effect immediately prior to the Effective Time, (ii) the Bylaws as in effect immediately prior to the Effective Time, (iii) the Organizational Documents of each Company Subsidiary, (iv) resolutions approved by the Company's Board of Directors authorizing the transactions contemplated hereby, including the treatment of Company Options (including Specified Options and Pre-signing Promised Options), Company Restricted Shares (including Early Exercise Restricted Shares, Founder Restricted Shares and any outstanding restricted stock award), and Company Restricted Stock Units, the matters requiring approval of the Company's Board of Directors set forth in Section 6.8, and the matters set forth in Section 6.14, (iv) the executed written consent of the Stockholders approving the Merger, and (v) certificates of good standing (including tax good standing) issued by the Delaware Secretary of State and for each other state where the Company is qualified to do business, in each case dated as of a date no more than two (2) Business Days prior to the Closing Date.

(e) [Reserved]

(f) No Governmental Litigation. There shall not be pending or threatened any Legal Proceeding in which a Governmental Entity is or is threatened to become a party, and neither Acquiror nor Company shall have received any communication from any Governmental Entity in which such Governmental Entity indicates the probability of commencing any Legal Proceeding or taking any other action: (i) challenging or seeking to restrain or prohibit the consummation of the Merger, (ii) relating to the Merger and seeking to obtain from Acquiror or any of its Subsidiaries, or from Company, any damages or other relief that would be material to Acquiror; (iii) seeking to prohibit or limit in any material respect Acquiror's ability to vote, receive dividends with respect to or otherwise exercise ownership rights with respect to the stock of Company; or (iv) that would materially and adversely affect the right of Acquiror or the Company to own the assets or operate the business of the Company.

(g) Governmental Approval. Acquiror, Merger Sub and the Company shall have timely obtained from each Governmental Entity all approvals, waivers and consents, necessary for consummation of the Merger.

(h) 280G Payments. The Company shall have delivered evidence reasonably satisfactory to Acquiror of the satisfaction of its obligation under Section 6.14.

(i) No Material Adverse Change. There shall not have occurred any change in the financial condition, properties, assets (including intangible assets), liabilities, business, operations, results of operations of Company, that, individually or in the aggregate, would reasonably be expected to have a Company Material Adverse Effect.

(j) Dissenters' Rights. Not more than five percent (5%) of the Company Capital Stock outstanding immediately prior to the Effective Time shall be eligible as Dissenting Shares.

(k) Escrow Agreement. The Securityholders' Agent and the Escrow Agent shall have executed and delivered the Escrow Agreement.

(l) Termination of 401(k) Plan. Unless otherwise requested by Acquiror in writing no less than three (3) Business Days prior to the Closing Date, the Company shall have delivered (i) a true, correct and complete copy of resolutions adopted by the Company's Board of Directors, certified by the Secretary of the Company, authorizing the termination of each or all of the Company Employee Plans that are "employee benefit plans" within the meaning of ERISA, including the 401(k) Plan, or to the extent the Company does not maintain but participates in a Company Employee Plan maintained by an ERISA Affiliate, the Company shall terminate its participation in such Company Employee Plan, and (ii) an amendment to the 401(k) Plan, executed by the Company, that is sufficient to assure compliance with all applicable requirements of the Code and regulations thereunder so that the Tax-qualified status of the 401(k) Plan shall be maintained at the time of its termination, with such amendment and termination or the Company's participation in the Company Employee Plans has been terminated, as applicable, to be effective on the date immediately preceding the Effective Time and contingent upon the Closing.

(m) FIRPTA Documents. The Company shall have delivered to Acquiror (i) a statement (in such form as may be reasonably requested by counsel to Acquiror) conforming to the requirements of Section 1.897 - 2(h)(1)(i) of the United States Treasury Regulations, and (ii) the notification to the Internal Revenue Service required under Section 1.897 - 2(h)(2) of the United States Treasury Regulations.

(n) Resignation Letters. The Company shall have delivered to Acquiror written resignations of all officers, directors and managers of the Company and the Company Subsidiaries effective as of the Effective Time.

(o) Payoff; Release and Termination of Security Interests. The Company shall have obtained and delivered to Acquiror a payoff letter, in form and substance reasonably satisfactory to Acquiror with respect to the indebtedness set forth on Schedule 7.2(o), the Company's and the Company Subsidiaries' assets shall have been released from all security interests thereon, and the Company shall have taken all steps necessary to terminate all UCC financing statements which have been filed with respect to such security interests.

(p) Key Employees; Founders. (i) Each Key Employees and each Founder shall have remained continuously employed with the Company from the date of this Agreement through the Closing, and (ii) no Key Employee or Founder shall have rescinded any Key Employee Agreement or Non-Competition and Non-Solicitation Agreement.

(q) Contract Termination. Each of the Contracts listed or described on Schedule 7.2(q) shall have been terminated, and the Company shall have delivered to Acquiror documentation satisfactory to Acquiror of such termination.

(r) Employees. At least ninety percent (90%) of the employees of the Company and the Company Subsidiaries (excluding the Key Employees and the Founders) (i) to whom the Acquiror has extended an offer of employment that meets the criteria described in Section 6.8(b) or (ii) of whom the Acquiror has requested confirmation of continued employment on terms that meet the criteria described in Section 6.8(b) shall have (A) if offered employment, executed and delivered to Acquiror an offer letter or an employment agreement (in Acquiror's discretion), a terms of employment agreement, and an invention disclosure, confidentiality, and

proprietary rights agreement, or (B) having been asked for confirmation, confirmed in writing such employee's intent to continue employment after the Closing.

(s) Stockholder Support Agreements. The Company shall have delivered Stockholder Support Agreements executed by Stockholders holding at least ninety-five percent (95%) of the outstanding shares of Company Capital Stock, and all such Stockholder Support Agreements shall be in full force and effect.

(t) Company Restricted Stock Unit Grants. The Company shall have delivered to Acquiror properly completed and duly executed grant notices (including New RSU Grant Notices) from recipients of Company Restricted Stock Units representing ninety-five percent (95%) of all recipients of Company Restricted Stock Units.

(u) Holdback Agreement. Each Founder and each Founder Transferee shall have executed and delivered to Acquiror a Holdback Agreement.

(v) Founder Share Acknowledgment Agreements. Each Founder shall have executed and delivered to Acquiror a Founder Share Acknowledgment Agreement.

(w) Estoppel Certificate from Santa Clara Sublandlord. The Company shall have delivered to Acquiror an estoppel certificate from EMC Corporation with respect to the sublease premises located at 2841 Mission College Boulevard, Santa Clara, California, in a form and substance reasonably satisfactory to Acquiror.

(x) Early Exercise Restricted Shares. The Company shall have delivered documentation, reasonably satisfactory to Acquiror, that all outstanding Early Exercise Restricted Shares shall have been extinguished and cancelled as provided in Section 2.6(c)(i).

(y) Specified Options. The Company shall have delivered evidence, in form and substance reasonably satisfactory to Acquiror, that the exercise price of the Specified Options has been amended as contemplated by Section 6.8(g).

7.3 Additional Conditions to Obligations of Company. The obligations of Company to consummate and effect this Agreement and the transactions contemplated hereby shall be subject to the satisfaction at or prior to the Effective Time of each of the following conditions, any of which may be waived, in writing, by the Company:

(a) Representations, Warranties and Covenants. The representations and warranties of Acquiror and Merger Sub in this Agreement shall be true and correct in all material respects without regard to any qualification as to materiality contained in such representation or warranty on and as of the date of this Agreement and on and as of the Closing Date as though such representations and warranties were made on and as of such time (except for such representations and warranties that speak specifically as of the date hereof or as of another date, which shall be true and correct as of such date).

(b) Performance of Obligations. Acquiror and Merger Sub shall have performed and complied in all material respects with all covenants, obligations and conditions of this Agreement required to be performed and complied with by them as of the Closing.

(c) Certificate of Officers. The Company shall have received a certificate executed on behalf of Acquiror and Merger Sub by an executive officer of Acquiror and Merger Sub, respectively, certifying that the conditions set forth in Sections 7.3(a) and 7.3(b) have been satisfied.

(d) Escrow Agreement. Acquiror shall have executed and delivered the Escrow Agreement.

8. Termination, Amendment and Waiver.

8.1 Termination. This Agreement may be terminated at any time prior to the Effective Time (with respect to Section 8.1(b) through Section 8.1(f), by written notice by the terminating party to the other party):

(a) by the mutual written consent of Acquiror and the Company;

(b) by either Acquiror or the Company if the Merger shall not have been consummated before 4:59 PM, Wilmington, Delaware time on July 12, 2021 (such date or such later date, if any, as is provided in proviso (ii) to this Section 8.1(b), the "**End Date**"); provided, however, that (i) the right to terminate this Agreement under this Section 8.1(b) shall not be available to any party whose failure to fulfill any obligation under this Agreement has been the cause of or resulted in the failure of the Merger to occur on or before such date, and (ii) in the event the condition set forth in Section 7.1(b) shall not have been satisfied on or before the End Date because of the failure to obtain the approvals described therein but all of the other conditions set forth in Section 7.1 have been satisfied, either the Company or Acquiror may extend the End Date, on one or more occasions, by notice delivered to the other parties, until a date no later than the twelve (12)-month anniversary of the date of this Agreement, in which case the End Date shall be deemed for all purposes to be the latest of such dates.

(c) by either Acquiror or the Company if a court of competent jurisdiction or other Governmental Entity shall have issued a nonappealable final order, decree or ruling or taken any other action, in each case having the effect of permanently restraining, enjoining or otherwise prohibiting the Merger, unless the party relying on such order, decree or ruling or other action has not complied in all material respects with its obligations under this Agreement;

(d) by Acquiror or the Company, if there has been a breach of any representation, warranty, covenant or agreement on the part of the other party set forth in this Agreement, which breach (i) causes the conditions set forth in Section 7.1 or 7.2 (in the case of termination by Acquiror) or Section 7.1 or 7.3 (in the case of termination by the Company) not to be satisfied and (ii) shall not have been cured within ten (10) Business Days following receipt by the breaching party of written notice of such breach from the other party;

(e) by Acquiror, if there shall have occurred any change in the financial condition, properties, assets (including intangible assets), liabilities, business, operations, or results of operations of Company, that, individually or in the aggregate, has had or is reasonably likely to have a Company Material Adverse Effect; or

(f) by Acquiror, if the execution of the Executed Written Consent by each Required Stockholder shall not have been obtained within twenty-four (24) hours of the execution and delivery of this Agreement.

8.2 Effect of Termination. In the event of termination of this Agreement as provided in Section 8.1, there shall be no liability or obligation on the part of Acquiror, Merger Sub or the Company or their respective officers, directors, or stockholders, except to the extent that such termination results from the Willful Breach by a party of any of its representations, warranties or covenants set forth in this Agreement; provided, however, that the provisions of Sections 6.4, 6.5, 6.9, 8.2, 9.4(b) and 10 shall remain in full force and effect and survive any termination of this Agreement.

8.3 Amendment. Subject to the provisions of Applicable Law, prior to the Effective Time, the parties hereto may amend this Agreement only by authorized action at any time before or after the adoption of this Agreement by the Stockholders pursuant to an instrument in writing signed on behalf of each of the parties hereto (provided that after such adoption of this Agreement by the Stockholders, no amendment shall be made which by Applicable Law requires further approval by the Stockholders without such further Stockholder approval). To the extent permitted by Applicable Law, from and after the Effective Time, Acquiror and the Securityholders' Agent may cause this Agreement to be amended only by execution of an instrument in writing signed on behalf of Acquiror and the Securityholders' Agent.

8.4 Extension; Waiver. At any time prior to the Effective Time, the parties hereto, by action taken or duly authorized by all requisite corporate action, may, to the extent legally allowed: (a) extend the time for the performance of any of the obligations or other acts of the other parties hereto; (b) waive any inaccuracies in the representations and warranties contained herein or in any document delivered pursuant hereto; and (c) waive compliance with any of the agreements or conditions contained herein. Any agreement on the part of a party hereto to any such extension or waiver shall be valid only if set forth in a written instrument signed on behalf of such party.

9. Indemnification.

9.1 Indemnification by the Effective Time Holders.

(a) From and after the Closing, subject to the limitations set forth in this Section 9, the Effective Time Holders shall, based on each Effective Time Holder's Pro Rata Portion, severally and not jointly, indemnify Acquiror and the Surviving Corporation and their respective officers, directors, agents, Affiliates, attorneys, representatives and employees, and each Person, if any, who controls or may control Acquiror or the Surviving Corporation within the meaning of the Securities Act (individually an "**Acquiror Indemnified Person**" and collectively the "**Acquiror Indemnified Persons**") from and against any and all losses, costs, damages, fees, re-engineering costs, liabilities, costs of investigation, Taxes and expenses, including reasonable fees and expenses arising from claims, demands, actions, causes of actions and settlements, including reasonable fees and expenses of lawyers, experts and other professionals (collectively, but without duplication, "**Damages**"), resulting from or arising out of:

(i) any failure of any of the representations and warranties given or made by the Company in this Agreement or in the certificate delivered pursuant to Section 7.2(c), to be true and correct as of the date of this Agreement and as of the Closing Date (as though such representation or warranty were made as of the Closing Date), except in the case of representations and warranties which by their terms speak only as of a specific date or dates, in which case such representations and warranties shall have been true and correct on and as of such specified date or dates;

(ii) any breach of any covenant or agreement made by the Company in this Agreement;

(iii) any amounts paid to Dissenting Stockholder in excess of the Per Share Consideration;

(iv) any inaccuracies in the Payment Schedule to the extent such inaccuracies are not addressed in the calculations of Final Net Cash or Final Working Capital;

(v) any Transaction Expenses or Indebtedness of the Company or any Company Subsidiary not reflected in the Estimated Closing Certificate to the extent such Transaction Expenses or Indebtedness are not addressed in the calculation of Final Net Cash; or

(vi) the matters set forth on Schedule 9.1(a)(vi).

Notwithstanding anything in this Agreement to the contrary, for the purposes of determining the amount of Damages resulting from or arising out of a breach (but not whether a breach has occurred), all qualifications or exceptions in any representation or warranty relating to or referring to the terms "material", "materiality", "in all material respects", "Material Adverse Effect" or any similar term or phrase shall be disregarded.

(b) Survival of Representations and Warranties. All representations and warranties made by the Company herein and in the certificate delivered pursuant to Section 7.2(c) shall survive the execution and delivery of this Agreement and the Closing and shall survive until the Escrow Termination Date; provided, however, that any claims for indemnification arising with respect to (i) the Company's representations set forth in Sections 3.1 (Organization, Standing and Power), 3.2 (Subsidiaries) 3.3 (Authority), 3.6 (Capitalization), 3.21 (Taxes) and 3.26 (Brokers' and Finders' Fees) (the "**Fundamental Representations**") shall survive until the date that is five (5) years after the Closing Date or (ii) involving Fraud or Willful Breach shall survive until the expiration of the applicable statute of limitations. There shall be no termination of any representation or warranty as to which a claim has been asserted by Acquiror prior to the termination of the survival period as set forth herein. All covenants and agreements survive indefinitely unless otherwise specified in their terms. The date of expiration of a claim for indemnification under this Agreement is referred to as such claim's "**Expiration Date**." The parties acknowledge that the time periods set forth in this Section 9.1 and elsewhere in this Agreement for the assertion of claims and notices under this Agreement are the result of arms'-length negotiation among the parties and that they intend for the time periods to be enforced as

agreed hereunder by the parties. The parties further acknowledge that the time periods set forth in this Section 9 and elsewhere in the Agreement may be shorter than otherwise provided by law.

(c) Threshold for Claims. No claim for Damages shall be made under Section 9(a)(i) unless the aggregate of Damages exceeds $14,000,000 for which claims are made hereunder by the Acquiror Indemnified Persons (the "**Threshold**"), in which case the Acquiror Indemnified Person shall be entitled to seek compensation for all Damages, including the amount of the Threshold; provided, however, that the Threshold shall not apply with respect to any Damages resulting from or arising out of any claims for indemnification involving (i) the Fundamental Representations, Section 3.5(c) (Long Term Contract Liabilities), Fraud or Willful Breach, or (ii) for the avoidance of doubt, any matter described under Sections 9.1(a)(ii)-(a)(vii).

(d) Cap on Indemnification by Effective Time Holders.

(i) The aggregate amount to be paid by the Effective Time Holders for claims for Damages made under Section 9.1(a)(i) or Section 9.1(a)(vi) shall not exceed an amount equal to (A) the Escrow Amount, plus (B) (I) the sum of (x) the number of Acquiror Parent Shares that are issued, (y) the number of Indemnification Shares held back pursuant to Section 2.6(c)(ii)(B)(II) and (z) the number of Holdback Shares held back pursuant to Section 2.6(c)(ii)(B)(I), multiplied by (II) the Acquiror Per Share Price, multiplied by (III) ten percent (10%) (the "**Cap**"); provided, however, that the Cap shall not apply to any Damages arising from or related to any claims for indemnification involving the Fundamental Representations, Fraud or Willful Breach.

(ii) In no event shall an Effective Time Holder be responsible for aggregate Damages under Section 9.1(a) and Section 9.7 in excess of such Effective Time Holder's Pro Rata Portion of the Merger Consideration that is actually received by such Effective Time Holder, provided, however, that an Effective Time Holder shall be responsible for Damages, including those in excess of the Effective Time Holder's Pro Rata Portion that are a result of such Effective Time Holder's Fraud or Willful Breach.

(e) Source of Recovery.

(i) Subject to the other limitations in this Section 9, any Damages incurred by an Acquiror Indemnified Person that are determined to be subject to indemnification by the Effective Time Holders pursuant to Section 9.1(a)(i) or Section 9.1(a)(vi) (other than claims for indemnification involving the Fundamental Representations, Fraud or Willful Breach), shall be satisfied solely by (A) the funds in the Escrow Account, plus (B) the Indemnification Shares, plus (C) ten percent (10%) of any Acquiror Parent Shares that are issued after the Escrow Termination Date.

(ii) Subject to the other limitations in this Section 9, any Damages incurred by an Acquiror Indemnified Person that are determined to be subject to indemnification by the Effective Time Holders pursuant to Sections 9.1(a)(ii) through 9.1(a)(v) shall be satisfied (A) first, from the Escrow Account, and (B) thereafter, from the Effective Time Holders, on a several basis, based on each Effective Time Holder's Pro Rata Portion of such Damages.

(f) None of the Acquiror Indemnified Persons shall be entitled to recover from the Effective Time Holders any (i) punitive damages, or (ii) damages that are not reasonably foreseeable, in each case except to the extent such damages are awarded to a third party in a third-party claim.

(g) Payments by the Effective Time Holders pursuant to this Section 9 in respect of any Damages shall be net of any insurance proceeds paid to an Acquiror Indemnified Person in respect of the applicable claim, less any related costs and expenses, including the aggregate cost of pursuing any related insurance claims and any related increases in insurance premiums or other chargebacks.

(h) If and solely to the extent that an amount of Damages in connection with an indemnifiable matter was already taken into account in connection with the calculation of the Merger Consideration, the amount of such Damages as was already used to reduce the Merger Consideration may not be recovered again under this Section 9. No Acquiror Indemnified Person shall be entitled to double recovery for any indemnifiable Damages, even though such Damages may be indemnifiable under more than one provision of this Agreement.

9.2 Indemnification Claims.

(a) To recover Damages under the indemnification obligations of the Effective Time Holders set forth in Section 9.1, an Acquiror Indemnified Person must deliver to the Securityholders' Agent on or before the applicable Expiration Date a certificate signed by an officer of Acquiror (an "**Officer's Certificate**") stating that Damages exist with respect to the indemnification obligations of the Effective Time Holders set forth in Section 9.1, and specifying in reasonable detail the individual items of such Damages included in the amount so stated, and the nature of the misrepresentation, breach of warranty, covenant or claim to which such item is related.

(b) The Securityholders' Agent shall have a period of thirty (30) days from and after delivery of any Officer's Certificate to deliver to Acquiror a response, in which the Securityholders' Agent shall: (i) agree that Acquiror is entitled to receive all of the requested Damages (in which case the response shall be accompanied by written notice executed by the Securityholders' Agent instructing the Escrow Agent to disburse the requested Damages to Acquiror) or (ii) dispute that Acquiror is entitled to receive any or all of the requested Damages.

(c) If the Securityholders' Agent does not deliver a response before the expiration of the thirty (30) day period referred to in Section 9.2(b) disputing any claim or claims made in the Officer's Certificate, Acquiror shall, subject to the provisions of this Section 9, be entitled to recover such Damages and, if the Escrow Account has not yet been released, receive from the Escrow Account a portion of such Escrow Account having a value equal to such Damages and such amount shall no longer be payable to the Effective Time Holders.

(d) If the Securityholders' Agent disputes any claim or claims made in any Officer's Certificate, Acquiror shall have thirty (30) days to respond in a written statement to the objection of the Securityholders' Agent. If after such thirty (30) day period there remains a dispute as to any claims, the Securityholders' Agent and Acquiror shall attempt in good faith for

thirty (30) days to agree upon the rights of the respective parties with respect to each of such claims. If the Securityholders' Agent and Acquiror should so agree, a memorandum setting forth such agreement shall be prepared and signed by Acquiror and the Securityholders' Agent and shall be delivered to the Escrow Agent. The Escrow Agent shall be entitled to rely on any such memorandum for the release of any Escrow Amount to Acquiror in accordance with the terms of such memorandum and the Escrow Agreement.

9.3 Resolution of Conflicts. If no agreement can be reached after good faith negotiation between the parties pursuant to Section 9.2(d), either Acquiror or the Securityholders' Agent may initiate formal legal action with the applicable court in accordance with Section 10.6 to resolve such dispute. The decision of the court as to the validity and amount of any claim in such Officer's Certificate shall be binding and conclusive upon the parties to this Agreement, and notwithstanding anything in Section 9 hereof, the parties and the Escrow Agent shall be entitled to act in accordance with such decision.

9.4 Securityholders' Agent.

(a) The Securityholders' Agent shall be constituted and appointed as representative, agent and attorney-in-fact for and on behalf of the Effective Time Holders as of the Closing for all purposes in connection with this Agreement and any agreement ancillary hereto and shall have full power and authority to represent, to give and receive notices and communications, to authorize the Escrow Agent to release any portion of the Escrow Amount to Acquiror in satisfaction of claims by Acquiror, to object to such deliveries, to agree to, negotiate, enter into settlements and compromises of, and demand arbitration and comply with orders of courts and awards of arbitrators with respect to such claims, to act on the Effective Time Holders' behalf with respect to the matters set forth herein, in accordance with the terms and provisions set forth herein, including giving and receiving all notices and communications to be given or received with respect to the matters set forth in Section 2.12 and Section 9 and to take all actions necessary or appropriate in the judgment of the Securityholders' Agent for the interpretation of this Agreement and accomplishment of the foregoing. Such agency may be changed by the holders of a majority in interest of the Escrow Amount from time to time upon not less than ten (10) days' prior written notice to Acquiror. The Securityholders' Agent may resign at any time. No bond shall be required of the Securityholders' Agent. Notices or communications to or from the Securityholders' Agent shall constitute notice to or from each of the Effective Time Holders.

(b) The Securityholders' Agent will incur no liability of any kind with respect to any action or omission by the Securityholders' Agent in connection with the Securityholders' Agent's services pursuant to this Agreement and any agreements ancillary hereto, except in the event of liability directly resulting from the Securityholders' Agent's gross negligence or willful misconduct. The Securityholders' Agent shall not be liable for any action or omission pursuant to the advice of counsel. The Effective Time Holders severally (and not jointly) based on such Effective Time Holder's Pro Rata Portion will indemnify, defend and hold harmless the Securityholders' Agent from and against any and all losses, liabilities, damages, claims, penalties, fines, forfeitures, actions, fees, costs and expenses (including the fees and expenses of counsel and experts and their staffs and all expense of document location, duplication and shipment) (collectively, "**Representative Losses**") arising out of or in connection with the Securityholders' Agent's execution and performance of this Agreement and any agreements

ancillary hereto, in each case as such Representative Loss is suffered or incurred; provided, that in the event that any such Representative Loss is finally adjudicated to have been directly caused by the gross negligence or willful misconduct of the Securityholders' Agent, the Securityholders' Agent will reimburse the Effective Time Holders the amount of such indemnified Representative Loss to the extent attributable to such gross negligence or willful misconduct. If not paid directly to the Securityholders' Agent by the Effective Time Holders, any such Representative Losses may be recovered by the Securityholders' Agent from (i) the funds in the Expense Fund and (ii) any other funds that become payable to the Effective Time Holders under this Agreement at such time as such amounts would otherwise be distributable to the Effective Time Holders; provided, that while this section allows the Securityholders' Agent to be paid from the aforementioned sources of funds, this does not relieve the Effective Time Holders from their obligation to promptly pay such Representative Losses as they are suffered or incurred, nor does it prevent the Securityholders' Agent from seeking any remedies available to it at law or otherwise. In no event will the Securityholders' Agent be required to advance its own funds on behalf of the Effective Time Holders or otherwise. Notwithstanding anything in this Agreement to the contrary, any restrictions or limitations on liability or indemnification obligations of, or provisions limiting the recourse against non-parties otherwise applicable to, the Effective Time Holders set forth elsewhere in this Agreement are not intended to be applicable to the indemnities provided to the Securityholders' Agent under this section. The foregoing indemnities will survive the Closing, the resignation or removal of the Securityholders' Agent or the termination of this Agreement.

(c) The Securityholders' Agent shall have reasonable access to information about Company and the Company Subsidiaries and the reasonable assistance of Company's and the Company Subsidiaries' officers and employees for purposes of performing its duties and exercising its rights hereunder, provided that the Securityholders' Agent shall treat confidentially and not disclose any nonpublic information from or about Company or any Company Subsidiary to anyone (except on a need to know basis to individuals who agree to treat such information confidentially).

(d) A decision, act, consent or instruction of the Securityholders' Agent shall constitute a decision of all Effective Time Holders for whom the Merger Consideration otherwise payable to them is released to Acquiror from the Escrow Account with respect to the matters set forth herein and shall be final, binding and conclusive upon each Effective Time Holder, and Acquiror may rely upon any decision, act, consent or instruction of the Securityholders' Agent as being the decision, act, consent or instruction of each and every Effective Time Holder. Acquiror is hereby relieved from any liability to any Person for any acts done by them in accordance with such decision, act, consent or instruction of the Securityholders' Agent.

9.5 Third-Party Claims. In the event Acquiror becomes aware of a third-party claim which Acquiror believes may result in an indemnification claim under Section 9, Acquiror shall notify the Securityholders' Agent of such claim within thirty (30) days of an executive officer of Acquiror becoming aware of such claim; provided that any failure to timely deliver such notice shall not affect an Acquiror Indemnified Person's rights hereunder, except to the extent that the Effective Time Holders' rights are materially prejudiced by such failure. The Securityholders' Agent shall be entitled, at the expense of the Effective Time Holders, to confer with Acquiror on the conduct of the defense of such third-party claim, but shall not determine or conduct the defense

of such claim or Legal Proceeding. Acquiror shall keep the Securityholders' Agent reasonably apprised of material developments in such claim or Legal Proceeding, and promptly provide to the Securityholders' Agent copies of all pleadings, response pleadings, motions and other similar legal documents and papers filed in connection with such claim or Legal Proceeding, in each case to the extent that receipt of such documents does not waive any privilege. Acquiror shall have the right in its sole discretion to defend any such claim. Acquiror shall also have the right in its sole discretion to settle any such claim; provided that (i) any such settlement effected without the Securityholders' written consent (not to be unreasonably withheld, conditioned or delayed) shall not be determinative as to whether any Damages with respect to such claim are indemnifiable and (ii) in the event that the amount of Damages with respect to such claim, together with the amount of any asserted Damages with respect to any concurrent claims or previously settled claim exceeds the amount of the Threshold, then Acquiror shall not settle such claim without the written consent of the Securityholders' Agent (such consent not to be unreasonably withheld, conditioned or delayed). In the event that the Securityholders' Agent has consented to any such settlement, the Securityholders' Agent shall have no power or authority to object under Section 9.2 or any other provision of this Section 9 to the amount of any claim by Acquiror against the Escrow Account for indemnity with respect to such settlement.

9.6 Tax Effect of Indemnification Payments. All amounts received by Acquiror from the Escrow Account pursuant to this Agreement shall be treated for all Tax purposes as adjustments to the aggregate Merger Consideration.

9.7 Tax Indemnification. In addition to the indemnification obligations set forth in Section 9.1 above, the Effective Time Holders shall, based on the each Effective Time Holders Pro Rata Portion, severally, and not jointly, indemnify the Acquiror Indemnified Persons from and against any Damages without duplication resulting from or arising out of (a) all Taxes (or the non-payment thereof) of Company or any Company Subsidiary for all taxable periods ending on or before the Closing Date and the portion through the end of the Closing Date for any Straddle Period ("**Pre-Closing Tax Period**"), (b) all Taxes of any member of an affiliated, consolidated, combined or unitary group of which Company or any Company Subsidiary (or any predecessor of Company or any Company Subsidiary) is or was a member on or prior to the Closing Date, including pursuant to Treasury Regulation §1.1502-6 or any analogous or similar state, local, or non-U.S. law or regulation, (c) any and all Taxes of any Person imposed on Company or any Company Subsidiary as a transferee or successor, by contract or pursuant to any Applicable Law, which Taxes relate to an event or transaction occurring before the Closing; and (d) any Tax imposed under Section 965 of the Code; provided, however, that in the case of clauses (a), (b), and (c) above, the Effective Time Holders shall be liable only to the extent that such Taxes exceed the amount, if any, reserved for such Taxes on the Closing Balance Sheet. The Effective Time Holders shall reimburse Acquiror for any Taxes that are the responsibility of the Effective Time Holders within fifteen (15) Business Days after payment of such Taxes by Acquiror or the Company. The Threshold and the Cap shall not apply with respect to any Damages arising from the matters set forth in this Section 9.7; provided, in no event shall an Effective Time Holder be responsible for aggregate Damages under this Section 9.7 and Section 9.1(a) in excess of such Effective Time Holder's Pro Rata Portion of the Merger Consideration; provided, however, that an Effective Time Holder shall be responsible for any and all Damages that are a result of such Effective Time Holder's Fraud or Willful Breach. To the extent that any Damages claimed in an Officer's Certificate pursuant to this Section 9.7 overlaps with a claim for Damages pursuant to

Section 9.2, the provisions set forth in this Section 9.7 and the provisions applicable to this Section 9.7 shall govern and control.

9.8 Effect of Investigation. The right to indemnification, payment of Damages or for other remedies based on any representation, warranty, covenant or obligation of Company, any Company Subsidiary or Effective Time Holders contained in or made pursuant to this Agreement shall not be affected by any investigation conducted with respect to, or any Knowledge acquired (or capable of being acquired) at any time, whether before or after the execution and delivery of this Agreement or the date the Closing occurs, with respect to the accuracy or inaccuracy of or compliance with, any such representation, warranty, covenant or obligation. The waiver of any condition to the obligation of Acquiror to consummate the Merger, where such condition is based on the accuracy of any representation or warranty, or on the performance of or compliance with any covenant or obligation, shall not affect the right to indemnification, payment of Damages, or other remedy based on such representation, warranty, covenant or obligation.

9.9 Exclusive Remedy. Acquiror acknowledges and agrees that its sole and exclusive remedy with respect to any and all claims for money damages from and after the Closing for any breach of any representation, warranty, covenant, agreement or obligation set forth herein (including as to this Agreement's existence, enforceability, validity, interpretation, performance, breach or damages, including claims in tort and Damages due to Fraud) as well as other provisions of this Agreement shall be pursuant to the indemnification provisions set forth in this Section 9 (it being understood that nothing in this Section 9 or elsewhere in this Agreement shall affect the Acquiror Indemnified Persons to specific performance or other equitable remedies to enforce their rights under this Agreement or any other instrument executed in connection herewith).

9.10 No Contribution. Notwithstanding anything to the contrary in this Agreement, no Effective Time Holder may make any claim for indemnification by reason of the fact that such Effective Time Holder was a controlling person, director, officer, member, manager, employee or representative of the Company or was serving as such for another Person at the request of the Company (whether such claim is for Damages of any kind or otherwise and whether such claim is pursuant to the Company's Organizational Documents or any Applicable Law, Order, Contract or otherwise) with respect to any claim for indemnification brought by an Acquiror Indemnified Person against the Effective Time Holders under this Agreement or otherwise relating to this Agreement or any of the transactions contemplated hereby, or that is based upon any facts or circumstances that form the basis for a claim for indemnification by an Acquiror Indemnified Person.

10. General Provisions.

10.1 Notices. All notices and other communications hereunder shall be in writing and shall be deemed duly delivered: (i) upon receipt if delivered personally; (ii) three (3) Business Days after being mailed by registered or certified mail, postage prepaid, return receipt requested; (iii) one (1) Business Day after it is sent by commercial overnight courier service or e-mail; or (iv) upon transmission if sent via facsimile with confirmation of receipt to the parties at the following address (or at such other address for a party as shall be specified upon like notice:

(a) if to Acquiror or Merger Sub, to:

Qualcomm Technologies, Inc.
5775 Morehouse Drive
San Diego, California 92121
Attn: General Counsel
Fax: (858) 658-2503

with a copy (which shall not constitute notice) to:

DLA Piper LLP (US)
4365 Executive Drive, Suite 1100
San Diego, California 92121
Attention: Jeff Baglio
Jon Olsen
E-mail: Jeff.Baglio@us.dlapiper.com
Jon.Olsen@us.dlapiper.com

(b) if to the Company, to:

NuVia, Inc.
2841 Mission College Boulevard
Santa Clara, California 95054
Attention: Chief Executive Officer

with a copy (which shall not constitute notice) to:

Pillsbury Winthrop Shaw Pittman LLP
2550 Hanover Street
Palo Alto, California 94304
Attention: Stanley Pierson
Facsimile: (650) 233-4545
E-mail: spierson@pillsburylaw.com

(c) if to Securityholders' Agent, to:

Shareholder Representative Services LLC
950 17th Street, Suite 1400
Denver, CO 80202
Attention: Managing Director
Fax: (303) 623-0294
Tel: (303) 648-4085
Email: deals@srsacquiom.com

with a copy (which shall not constitute notice) to:

Pillsbury Winthrop Shaw Pittman LLP
2550 Hanover Street
Palo Alto, California 94304
Attention: Stanley Pierson
Facsimile: (650) 233-4545
E-mail: spierson@pillsburylaw.com

10.2 Counterparts; Facsimile. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

10.3 Entire Agreement; Nonassignability; Parties in Interest. This Agreement and the documents and instruments and other agreements specifically referred to herein or delivered pursuant hereto, including the exhibits and schedules hereto, including the Company Disclosure Schedule: (a) together constitute the entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, both written and oral, among the parties with respect to the subject matter hereof except for the Confidentiality Agreement, which except as set forth in Section 6.4 shall continue in full force and effect, and shall survive any termination of this Agreement or the Closing, in accordance with its terms; and (b) except as expressly provided herein, are not intended to confer upon any other Person any rights or remedies hereunder and shall not be assigned by operation of law or otherwise without the written consent of the other party.

10.4 Severability. In the event that any provision of this Agreement or the application thereof becomes or is declared by a court of competent jurisdiction to be illegal, void or unenforceable, the remainder of this Agreement will continue in full force and effect and the application of such provision to other persons or circumstances will be interpreted so as reasonably to effect the intent of the parties hereto. The parties further agree to replace such void or unenforceable provision of this Agreement with a valid and enforceable provision that will achieve, to the extent possible, the economic, business and other purposes of such void or unenforceable provision.

10.5 Remedies Cumulative. Except as otherwise provided herein, any and all remedies herein expressly conferred upon a party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such party, and the exercise by a party of any one remedy will not preclude the exercise of any other remedy.

10.6 Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of Delaware applicable to parties residing in Delaware, without regard applicable principles of conflicts of law. Each of the parties hereto irrevocably consents to the exclusive jurisdiction of any court located within San Diego County, California, in connection with any matter based upon or arising out of this Agreement or the matters contemplated hereby and it agrees that process may be served upon it in any manner authorized by the laws of the State of Delaware for such persons and waives and covenants not to assert or plead any objection which

it might otherwise have to such jurisdiction and such process. EACH OF THE PARTIES HERETO IRREVOCABLY WAIVES ANY AND ALL RIGHTS TO TRIAL BY JURY IN ANY LEGAL PROCEEDING (WHETHER AT LAW, IN CONTRACT, IN TORT OR OTHERWISE) ARISING OUT OF OR RELATED TO THIS AGREEMENT.

10.7 Rules of Construction. The parties hereto agree that they have been represented by counsel during the negotiation, preparation and execution of this Agreement and, therefore, waive the application of any law, regulation, holding or rule of construction providing that ambiguities in an agreement or other document will be construed against the party drafting such agreement or document.

10.8 Specific Enforcement. The parties acknowledge and agree that irreparable damage would occur and there would be no adequate remedy at law in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms. Accordingly, the parties agree that each party hereto shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement, this being in addition to any other remedy to which a party is entitled at law or in equity.

10.9 Amendment; Waiver. Any amendment or waiver of any of the terms or conditions of this Agreement must be in writing and must be duly executed by or on behalf of the party to be charged with such waiver. The failure of a party to exercise any of its rights hereunder or to insist upon strict adherence to any term or condition hereof on any one occasion shall not be construed as a waiver or deprive that party of the right thereafter to insist upon strict adherence to the terms and conditions of this Agreement at a later date. Further, no waiver of any of the terms and conditions of this Agreement shall be deemed to or shall constitute a waiver of any other term of condition hereof (whether or not similar).

10.10 Waiver of Conflict; Treatment of Company Confidential Information.

(a) The parties acknowledge and agree that subsequent to the Closing, the Securityholders' Agent and/or any Effective Time Holder (collectively, the "**Former Holders**" or individually, the "**Former Holder**") shall have the right to retain Pillsbury Winthrop Shaw Pittman LLP ("**Pillsbury**") to represent any Former Holder's interest(s) in any dispute relating to or arising out of this Agreement or the Merger (collectively, the "**Merger Dispute**"). The Surviving Corporation, Acquiror and each of their subsidiaries (collectively, the "**Buyers**" or individually, the "**Buyer**") hereby irrevocably waive, consent to and covenant not to assert any objection, nor seek to have Pillsbury disqualified from any such representation based upon the prior representation of the Company by Pillsbury, based on conflict of interest or otherwise, to any representation of any Former Holder by Pillsbury in any Merger Dispute. Each Buyer acknowledges that such consent and waiver is voluntary, that it has been carefully considered, and that the parties have consulted with counsel or have been advised they should do so in connection herewith. Each Buyer further agrees that, as to all pre-Closing privileged materials relating to this Agreement and the transactions contemplated by this Agreement ("**Privileged Deal Materials**"), the attorney-client privilege and the exception of client confidence belongs to the Securityholders' Agent and shall not pass to or be claimed by any Buyer on any ground, including waiver. Notwithstanding the foregoing, the parties agree that Privileged Deal Materials do not include

communications that constitute evidence of Fraud by the Former Holders or the Company. Except as to the Privileged Deal Materials, any other pre-Closing privileged communications maintained by the Company shall be the sole property of the Surviving Corporation ("**Acquiror Materials**"). In addition, in the event that a dispute arises between Acquiror or the Surviving Corporation and a Person other than a Former Holder, Acquiror may assert the attorney-client privilege with respect to any Privileged Deal Material to prevent disclosure to such third-party of such Privileged Deal Material, and Acquiror may not waive such privilege without providing no fewer than five (5) Business Days' prior written notice to the Securityholders' Agent.

(b) Prior to Closing, the Company shall make good-faith and reasonable efforts to remove all Privileged Deal Materials (but not any Acquiror Materials) from the Company's records (including electronic files on the Company's email server). If any Privileged Deal Materials are left at the Company or the removal of certain materials prior to Closing is not reasonable (e.g., the materials exist in archived locations, are not centrally stored, exist on portable media), such remaining materials shall in no way prejudice or otherwise constitute a waiver of, or estoppel as to, any claim of attorney-client privilege, work product or other applicable privilege or immunity by the Former Holders including the Securityholders' Agent. To the extent any Acquiror Materials are discovered post-Closing by the Securityholders' Agent, the Securityholders' Agent shall not review the materials further (after identifying what they are), shall promptly deliver such materials to Acquiror and shall permanently delete all copies of such identified materials from the Securityholders' Agent's records (including electronic files on the Company's email server to the extent practicable).

(c) This Section 10.10 is intended for the benefit of, and shall be enforceable by, Pillsbury. This Section 10.10 shall be irrevocable, and no term of this Section 10.10 may be amended, waived or modified, without the prior written consent of Pillsbury.

10.11 Interpretation.

(a) When a reference is made in this Agreement to Sections or Exhibits, such reference shall be to a Section of, or an Exhibit to this Agreement unless otherwise indicated.

(b) The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

(c) The words "include," "includes" and "including" when used herein shall be deemed in each case to be followed by the words "without limitation."

(d) The phrases "delivered," "provided to," "made available" and "furnished to" and phrases of similar import when used herein, unless the context otherwise requires, means, with respect to any statement in Section 3 of this Agreement to the effect that any information, document or other material has been "delivered," "provided to" or "furnished" to Acquiror or its Representatives, that such information, document, or material was made available for review (without subsequent modification by the Company) by Acquiror or its representatives in the virtual data room set up by the Company in connection with this Agreement at least forty-eight (48) hours prior to the date hereof.

(e) Unless the context of this Agreement otherwise requires: (i) words of any gender include each other gender; (ii) words using the singular or plural number also include the plural or singular number, respectively; and (iii) the terms "hereof," "herein," "hereunder" and derivative or similar words refer to this entire Agreement.

[The remainder of this page is intentionally left blank.]

IN WITNESS WHEREOF, the Company, Merger Sub, Acquiror and Securityholders' Agent have caused this Agreement to be executed and delivered by each of them or their respective officers thereunto duly authorized, all as of the date first written above.

QUALCOMM TECHNOLOGIES, INC.

By: _____
Name: Duane Nelles III
Title: Senior VP, Corporate Development

NILE ACQUISITION CORPORATION

By: _____
Name: Ajay Bawale
Title: President

NUVIA, INC.

By: _____
Name:
Title:

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholders' Agent

By: _____
Name:
Title:

IN WITNESS WHEREOF, the Company, Merger Sub, Acquiror and Securityholders' Agent have caused this Agreement to be executed and delivered by each of them or their respective officers thereunto duly authorized, all as of the date first written above.

QUALCOMM TECHNOLOGIES, INC.

By: _____
Name: Duane Nelles III
Title: Senior VP, Corporate Development

NILE ACQUISITION CORPORATION

By: _____
Name: Ajay Bawale
Title: President

NUVIA, INC.

By: _____
Name:
Title:

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholders' Agent

By: _____
Name:
Title:

[Signature Page to the Merger Agreement]

IN WITNESS WHEREOF, the Company, Merger Sub, Acquiror and Securityholders' Agent have caused this Agreement to be executed and delivered by each of them or their respective officers thereunto duly authorized, all as of the date first written above.

QUALCOMM TECHNOLOGIES, INC.

By: _____
Name:
Title:

NILE ACQUISITION CORPORATION

By: _____
Name:
Title:

NUVIA, INC.

By: Gerard R Williams III
Name: Gerard R. Williams III
Title: Chief Executive Officer

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholders' Agent

By: _____
Name:
Title:

[SIGNATURE PAGE TO AGREEMENT AND PLAN OF MERGER]

IN WITNESS WHEREOF, the Company, Merger Sub, Acquiror and Securityholders' Agent have caused this Agreement to be executed and delivered by each of them or their respective officers thereunto duly authorized, all as of the date first written above.

QUALCOMM TECHNOLOGIES, INC.

By: _____
Name:
Title:

NILE ACQUISITION CORPORATION

By: _____
Name:
Title:

NUVIA, INC.

By: _____
Name:
Title:

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as the Securityholders' Agent

By: _____
Name: Kip Wallen
Title: Director

[SIGNATURE PAGE TO AGREEMENT AND PLAN OF MERGER]

EXHIBIT 20

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE
---o0o---

ARM LTD., a U.K. corporation,)
Plaintiff,)
vs.) Case No. 22-1146-MN
QUALCOMM INC., a Delaware corporation, QUALCOMM TECHNOLOGIES, INC., a Delaware corporation, and NUVIA, INC., a Delaware corporation,)
Defendants.)

---o0o---

WEDNESDAY, NOVEMBER 15, 2023

DEPOSITION OF CRISTIANO AMON

HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY

---o0o---

REPORTER: BALINDA DUNLAP, CSR 10710, RPR, CRR, RMR

A P P E A R A N C E S
---o0o---

FOR THE PLAINTIFF:
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425 Market Street
San Francisco, California 94105
BY: MICHAEL JACOBS, ESQ.
(415) 268-7455
mjacobs@mofo.com

MORRISON & FOERSTER
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370 Seventeenth Street
Denver, Colorado 80202
BY: SARAH BRICKEY, ESQ.
(303) 592-2204
sbrickey@mofo.com

FOR THE DEFENDANTS:
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Washington, D.C. 20006-1047
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MELISSA F. ZAPPALA, ESQ.
(202) 223-7313
wisaacson@paulweiss.com
mzappala@paulweiss.com

ALSO PRESENT:
Peter Matteson, Videographer
Kurt Kjelland, Qualcomm

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---o0o---

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SAN FRANCISCO, CALIFORNIA, NOVEMBER 15, 2023
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BE IT REMEMBERED that on Wednesday, the 15th day of November 2023, commencing at the hour of 8:08 a.m. thereof, at 535 Mission Street, Suite 2400, San Francisco, California, before me, Balinda Dunlap, a Certified Shorthand Reporter in and for the County of San Francisco, State of California, remotely appeared:

THE VIDEOGRAPHER: This is the start of media labeled No. 1 of the video-recorded deposition of Cristiano Amon in the matter of ARM Ltd. versus Qualcomm, Inc., et al., in the United States District Court for the District of Delaware, Case No. 22-1146-MN.

This deposition is being held at 535 Mission Street, 24th Floor, San Francisco, California on November 15th, 2023, at approximately 8:08 a.m.

My name is Peter Matteson. I am the legal video specialist from Esquire Deposition Solutions, located at One Sansome Street, No. 3500, San Francisco, California 94104. The court reporter is Balinda Dunlap in association with Esquire Deposition Solutions.

Counsel, please introduce yourself.

MR. JACOBS: Michael Jacobs, Morrison & Foerster, for the plaintiff. With me is Sarah Brickey.

MR. ISAACSON: Bill Isaacson from Paul Weiss for Qualcomm, also Melissa Zappala of Paul Weiss for Qualcomm.

MR. KJELLAND: Kurt Kjelland for Qualcomm.

THE VIDEOGRAPHER: Thank you. Will the court reporter please swear in the witness.

CRISTIANO AMON

called as a witness by the Plaintiff, having been sworn to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

THE VIDEOGRAPHER: Please proceed.

EXAMINATION BY MR. JACOBS

Q. Good morning, Mr. Amon.

A. Good morning.

MR. JACOBS: I printed out your LinkedIn profile. I have marked as Exhibit 1 the LinkedIn profile of Cristiano Amon.

(Reporter marked Exhibit No. 1 for identification.)

Q. BY MR. JACOBS: Mr. Amon, is this profile

correct?

A. Yes, it is.

Q. What is the difference between QCT, Qualcomm Technologies, Inc., and Qualcomm, Inc.?

A. Qualcomm Technologies, Inc., it is a wholly-owned subsidiary of Qualcomm that carries our semiconductor business.

Q. And QCT is?

A. It stands for Qualcomm CDMA Technologies. That's the semiconductor segment of Qualcomm.

Q. And then Qualcomm, Inc. is the parent company?

A. That is correct.

Q. How did your duties change when you assumed the role of president and chief executive officer in July of 2021 as compared with president in the preceding period?

A. When I was president, I had the operating responsibility. And as I became CEO, I also had other corporate functions as well.

Q. What was your role in the acquisition of ARM?

A. We didn't acquire ARM.

Q. I'm sorry. What was your role in the acquisition of NuVia?

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[redacted] is used both internally to describe the CPU and externally?

A. At least to where I have knowledge that [redacted] has described it to me, that's -- when I look at the chips, here's the [redacted]. This is the [redacted]. This is the [redacted]. I don't know if there are a number of different project names.

Also, sometimes you can have [redacted] in different sizes, big, small. I don't know what are the names, if they give to us.

Q. In the second paragraph of this article the writer says "Qualcomm wasn't expected to show the fruits of his NuVia acquisition, revealing earlier this year that the chips are due in late 2023. It might be a small thing, but Qualcomm executive said that the Oryon chips would ship in 2023, sans" -- I think meaning without -- "the 'late' qualifier." Do you see that?

A. Yes, I do.

Q. So this is written in November of 2022, almost a year ago to the day?

A. Correct.

Q. When will -- what's your current best assessment when [redacted] chips will ship?

A. [redacted] are ready. We achieve CS, which is

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commercial sample. So we're now -- we're now shipping [redacted] to customers. They are doing development platforms.

Commercial availability of [redacted] is pending the availability of the new version of Windows, which is dedicated for [redacted] that comes in the second quarter 2024.

So the laptops are going to be launching with [redacted], it has [redacted] CPU, towards the second half back to school '24, even though we are shipping products because we're commercial because we're waiting for Microsoft new Windows availability.

Q. You used the phrase "commercial sampling, CS"?

A. Yes.

Q. Is that different from commercial quantity shipment?

A. The way our business works in semiconductors -- I'll give an example on phones. We will finish our product, and our product is finished when we declare CS. CS means commercial samples, which means it's already the commercial hardware, the hardware won't go through any changes.

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And we already have the first release of the software. That goes into an OEM that is going to build that into their product. We started shipping in volumes when the OEM product's going to manufacturing.

And after they leave the factory, they go into the shelves and get purchased by. Usually there is a time delay. For example -- as an example, we will have a commercial and start shipping to Samsung around September, typically when they will launch the Galaxy in February or March.

Q. Because in September is when Samsung is scaling up its manufacturing. It's starting to have the vehicles to receive the chipsets?

A. Correct. Remember the chipset is one component on another product that has a number of other components with different schedules as well.

Q. What is the -- do you happen to know what the documentation associated with [redacted] comprises?

A. In my position, I will not know that level of detail.

Q. Who would know that?

A. I think product managers would know that. The customer engineering dedicated to [redacted] would

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know that.

Q. Is there a product manager -- lead product manager for [redacted]?

A. There is one.

Q. Who is that?

A. I don't know the name.

Q. Next paragraph. "Qualcomm executives didn't address an unexpected lawsuit by the company's IP provider, ARM Ltd., against Qualcomm earlier this year. That would seem to put Qualcomm's development of its next-gen NuVia/Oryon chips in jeopardy." Do you see that?

A. Yes.

Q. And then you go on -- or then the article goes on. Sorry. "(Officially, Qualcomm regards Oryon as its intellectual property -- 'the creation of our custom CPU was started by NuVia engineers while employed at NuVia and, after the acquisition of NuVia by Qualcomm Technologies, the custom CPU was completed by engineers at Qualcomm Technologies,' a representative told PCWorld after this article was published." Quote -- sorry. "It will be 'implemented in Snapdragon technology.'" Do you see that?

A. Yes.

Q. The statement by the Qualcomm representative that's reported there, is that statement consistent with your understanding?

A. I think it's -- it's an oversimplification. I will go back to the conversation we had before.

Qualcomm had acquired NuVia. We had maintained the IP and intellectual property and design that was created by NuVia independent of ARM, and we had completed the product ourselves for new end market based on Qualcomm IP and the Qualcomm ALA, and that would end up being [redacted] that goes into [redacted]

MR. JACOBS: Why don't we just take a few minutes. We can get back here at 1:40, and I'll see if I have any other remaining questions.

THE WITNESS: All right. Thank you very much.

THE VIDEOGRAPHER: We are off the record at 1:34 p.m.

(Whereupon a recess was taken.)

THE VIDEOGRAPHER: We are back on the record at 1:44 p.m.

Q. BY MR. JACOBS: Sir, do you have any contingency plan to address the possibility that

Qualcomm loses the litigation with ARM and is barred from shipping products derived from the [redacted] core that NuVia brought to Qualcomm?

MR. ISAACSON: Objection to form.

THE WITNESS: I will answer the question in the following manner. In the event that Qualcomm is not able to ship a product for whatever reason, I think what is going to happen is we're going to lose that product cycle.

What Qualcomm is most likely going to do, depending on the circumstances, we'll have to redesign the process, and it is going to be two different options.

[redacted]

I think the answer is a product cycle will be missed.

MR. JACOBS: No further questions. Thank you, sir.

THE WITNESS: All right. Thank you.

EXAMINATION BY MR. ISAACSON

Q. I just have one question. If you referred to Qualcomm products with NuVia designs, what do

you mean by "NuVia designs"?

A. It means the NuVia team which is now part of Qualcomm CPU team are working on next generation CPUs for Qualcomm, which is part of the Oryon series of CPUs.

MR. ISAACSON: Nothing else.

MR. JACOBS: Nothing further.

THE VIDEOGRAPHER: This is the end of this video-recorded deposition of Cristiano Amon on November 15th, 2023. We are off the record at 1:45 p.m.

(Whereupon the proceedings were concluded at 1:45 p.m.)

---o0o---

I have read the foregoing deposition transcript and by signing hereafter, approve same.

Dated_____.

_____

(Signature of Deponent)

DEPOSITION OFFICER'S CERTIFICATE

(Civ. Proc. § 2025.520(e))

STATE OF CALIFORNIA)
) Ss
COUNTY OF SAN FRANCISCO)

I, BALINDA DUNLAP, CSR #10710, hereby certify:

I am a duly qualified Certified Shorthand Reporter, in the State of California, holder of Certificate Number CSR 10710 issued by the Court Reporters Board of California and which is in full force and effect. (Bus. & Prof. § 8016)

I am not financially interested in this action and am not a relative or employee of any attorney of the parties, or of any of the parties. (Civ. Proc. § 2025.320(a))

I am authorized to administer oaths or affirmations pursuant to California Code of Civil Procedure, Section 2093(b) and prior to being examined, the deponent was first placed under oath or affirmation by me. (Civ. Proc. §§ 2025.320, 2025.540(a))

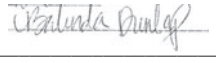
I am the deposition officer that stenographically recorded the testimony in the foregoing deposition and the foregoing transcript

is a true record of the testimony given. (Civ. Proc. § 2025.540(a))

I have not, and shall not, offer or provide any services or products to any party's attorney or third party who is financing all or part of the action without first offering same to all parties or their attorneys attending the deposition and making same available at the same time to all parties or their attorneys. (Civ. Proc. § 2025.320(b))

I shall not provide any service or product consisting of the deposition officer's notations or comments regarding the demeanor of any witness, attorney, or party present at the deposition to any party or any party's attorney or third party who is financing all or part of the action, nor shall I collect any personal identifying information about the witness as a service or product to be provided to any party or third party who is financing all or part of the action. (Civ. Proc. § 2025.320(c))

Dated: December 4, 2023



Balinda Dunlap

DEPOSITION OFFICER'S CERTIFICATE

(Civ.Proc. § 2025.520(e))

STATE OF CALIFORNIA)
) Ss.
COUNTY OF SAN FRANCISCO)

I, Balinda Dunlap, hereby certify:

I am the deposition officer that stenographically recorded the testimony in the foregoing deposition.

Written notice pursuant to Code of Civil Procedure, Section 2025.520(a), having been sent, the deponent took the following action within the allotted period with respect to the transcript of the deposition:

( ) In person, at the office of the deposition officer, made the changes set forth on the original of the transcript. (The parties attending the deposition have been notified of said changes.)

( ) Approved the transcript by signing it.

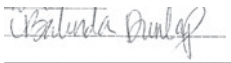
( ) Refused to approve the transcript by not signing it.

( ) By means of a signed letter, made the changes and approved or refused to approve the

transcript as set forth therein. (Said letter has been attached to the original transcript and copies thereof mailed to all parties attending the deposition.)

( ) Failed to approve the transcript within the allotted time period.

Dated: December 4, 2023.



Balinda Dunlap

[redacted]

Reference No.: 10401728

Case: ARM LTD. V. QUALCOMM INC.

DECLARATION UNDER PENALTY OF PERJURY

I declare under penalty of perjury that I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me, and the same is true and accurate, save and except for changes and/or corrections, if any, as indicated by me on the DEPOSITION ERRATA SHEET hereof, with the understanding that I offer these changes as if still under oath.

_____
Cristiano Amon

NOTARIZATION OF CHANGES
(If Required)

Subscribed and sworn to on the _____ day of

_____, 20____ before me,

(Notary Sign)_____

(Print Name) Notary Public,

in and for the State of _____

Reference No.: 10401728

Case: ARM LTD. V. QUALCOMM INC.

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Cristiano Amon

Reference No.: 10401728

Case: ARM LTD. V. QUALCOMM INC.

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Cristiano Amon

EXHIBIT 21

EXHIBIT 22

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARM LTD., Plaintiff, v. QUALCOMM INC., QUALCOMM TECHNOLOGIES, INC. and NUVIA, INC., Defendants.	)	C.A. No. 22-1146 (MN) **HIGHLY CONFIDENTIAL**

DEFENDANTS' SUPPLEMENTAL RESPONSES AND OBJECTIONS TO PLAINTIFF'S FIRST SET OF INTERROGATORIES (NOS. 7–12)

Pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, defendants Qualcomm Inc., Qualcomm Technologies, Inc, and Nuvia, Inc. (collectively "Qualcomm" or "Defendants") by and through their attorneys, hereby supplement their responses and objections to Plaintiff ARM LTD.'s ("Plaintiff" or "ARM") Interrogatories to Defendants as follows:

GENERAL OBJECTIONS

1. Defendants object to each Interrogatory to the extent that it seeks to impose greater or different obligations on Defendants than those provided for by the Federal Rules of Civil Procedure, the Local Rules of the United States District Court for the District of Delaware, any discovery orders entered into this case, any other applicable Court orders, or agreements reached by the parties.

2. Defendants object to each Interrogatory to the extent that it seeks documents, things, or information protected by the attorney-client privilege, the work-product doctrine, or any other applicable privilege or immunity. Nothing contained in these Responses and Objections is intended to be, nor shall in any way be, construed as a waiver of any such privilege, immunity, or protection. Specific Objections on the grounds of privilege are provided for emphasis and clarity

only, and the absence of a Specific Objection is neither intended, nor should be interpreted, as evidence that Defendants do not object to an Interrogatory on the basis of an applicable privilege, immunity, or protection. Any disclosure of any such privileged or protected material in responses to any Interrogatory is inadvertent and not intended to waive those privileges and protections.

3. Defendants object to the Interrogatories to the extent they seek documents and things that Defendants have a legal or contractual obligation not to disclose. Defendants will not provide such documents or things without either the consent of the relevant third party or an order compelling the production thereof, or without providing the relevant third party an opportunity to object to the production.

4. Defendants object to each Interrogatory to the extent that it purports, or may be construed, to call for the production or identification of "any," "all," "each," or "every" document or thing pertaining to a specific subject, on the ground that such language is overbroad and unduly burdensome. As used herein, the term overbroad includes Interrogatories that, so characterized, seek, at least in part, documents or information irrelevant in scope, subject matter or time period to this lawsuit or to the particular matters at issue in this lawsuit. To the extent that a search is required, Defendants will perform a reasonable, targeted search designed to reasonably and proportionately identify relevant documents, to the extent any exist.

5. Defendants object to the Interrogatories to the extent that they call for discovery that is unreasonable or not proportional under the circumstances.

6. Defendants object to the Interrogatories to the extent that they purport to require Defendants to create, generate, compile, or develop documents not kept, or in a form not kept, in the ordinary course of Defendants' businesses.

7. Defendants object to the Interrogatories to the extent that they are not reasonably limited in time. Defendants will agree to produce documents dating from January 1, 2019 forward, unless otherwise specified.

8. Defendants object to the Interrogatories and each and every instruction and definition therein to the extent that any Interrogatory: (a) seeks the production of documents or disclosure of information not relevant to this litigation, nor reasonably calculated to lead to the discovery of admissible evidence; (b) is overly broad, unduly burdensome, harassing, oppressive, or duplicative; (c) is vague or ambiguous; (d) calls for the disclosure of information not within Defendants' possession, knowledge, custody, care, or control; (e) calls for the disclosure of information already in Plaintiff's possession, knowledge, custody, care, or control; or (f) calls for the production of documents or disclosure of information readily available to Plaintiff from public or third-party sources.

9. Defendants' election to respond to an Interrogatory, notwithstanding the objectionable nature of the Interrogatory, is not: (a) an acceptance of, or agreement with, any of the characterizations or purported descriptions of any facts, circumstances, events, or legal conclusions contained in the Interrogatories; (b) a concession or admission that the materials are relevant to this case or would be admissible at trial; (c) a waiver of the General Objections or the objections asserted in response to that specific Interrogatory; (d) an admission that any such documents or things exist; (e) an agreement that requests for similar information or documents will be treated in a similar manner; or (f) an acceptance of, or agreement with, any of the definitions in the Interrogatories, to the extent that the definition or meaning of any defined term is at issue in this case.

10. Defendants' investigation of the facts in this proceeding and review of the relevant documents is ongoing. Accordingly, the objections and responses herein are based on present knowledge, information, and belief. Defendants reserve the right to modify, supplement, or amend any response and objection, if necessary or appropriate, in any way and at any time. Defendants further reserve the right to object, at any hearing and any other proceeding in this litigation, to the use or admissibility into evidence of: (a) any documents produced in response to the interrogatories; (b) any of the information contained in any such document; or (c) any other information provided in response to any interrogatory.

11. In the event that Defendants produce a document that is privileged, protected under Federal Rule of Evidence 502, or otherwise immune from disclosure, it will have been produced through inadvertence and shall not constitute a waiver of any privilege or immunity applicable (a) to that or any other document or (b) to communications concerning the subject matter of that or any other document.

12. Defendants object to the Interrogatories to the extent that they assume disputed facts or legal conclusions in defining the documents requested. Defendants hereby deny any such disputed facts or legal conclusions. Any documents or information produced by Defendants in response to the Interrogatories are without prejudice to this objection.

13. Defendants' General Objections apply to each and every Interrogatory and are incorporated by reference into each of the responses set forth below, which responses are made without waiver of, and subject to, these General Objections.

OBJECTIONS TO DEFINITIONS AND INSTRUCTIONS

1. Defendants object to the "Definitions" to the extent that they attempt to define words beyond or inconsistent with their ordinary meaning.[1]

2. Defendants object to the definition of "Arm" or "Plaintiff" as vague and ambiguous to the extent the scope of "related corporate entities" is unclear.

3. Defendants object to the definition of "Qualcomm" as vague, ambiguous, overly broad, and unduly burdensome to the extent it is defined to include not only Qualcomm Incorporated and Qualcomm Technologies, Inc., but also persons or entities that are separate and distinct from Qualcomm Incorporated and Qualcomm Technologies, Inc., and over whom Defendants exercise no control, such as but not limited to affiliates, consultants, independent contractors, experts, investigators, licensees, licensors, attorneys, or collaborators.

4. Defendants object to the definition of "Nuvia" as vague, ambiguous, overly broad, and unduly burdensome to the extent it is defined to include not only Nuvia, Inc., but also persons or entities that are separate and distinct from Nuvia, Inc., and over whom Defendants exercise no control.

5. Defendants object to the definitions of "You," "Your," and "Defendants" as vague, ambiguous, overly broad, and unduly burdensome to the extent they seek information relating to persons or entities that are separate and distinct from Qualcomm Incorporated, Qualcomm Technologies, Inc. and Nuvia, Inc. and over whom Defendants exercise no control. In responding to these Interrogatories, Defendants interpret the terms "You," "Your," and "Defendants" to refer

[1] To the extent not defined here, the definitions used by Defendants in the responses below are consistent with the definitions contained in Defendants' Answer and Defenses to Plaintiff's Complaint and Jury Demand and Defendants' Amended Counterclaim (D.I. 18) (the "Answer and Amended Counterclaim").

only to the named parties in this action. Defendants also object to the definitions of "You," "Your," and "Defendants" to the extent they purport to impose obligations on Defendants beyond what is required by the Rules. Defendants will interpret the definition of "You," "Your," and "Defendants" to impose no discovery obligation on any person or entity that is not a party to this litigation.

6. Defendants object to the definition of "ALA" as vague, ambiguous, and overbroad because it is not clear which agreement(s) "an Architecture License Agreement with Arm" refers to. Defendants will interpret "ALA" to mean the Amended and Restated Architecture License Agreement No. LES-TLA-20039 dated May 30, 2013, and amendments and annexes thereto, with respect to Qualcomm; and the Architecture License Agreement No. CM0001215 dated September 27, 2019, and amendments and annexes thereto, with respect to Nuvia.

7. Defendants object to the definition of "[redacted]" as vague, ambiguous, argumentative, and overly broad.

8. Defendants object to the definition of "Nuvia Technology" as vague, ambiguous, overbroad, and unduly burdensome because the terms "developed," "implemented," "improved," "designed," "aspect," "part," "portion," "component," "deliverables," "materials," "technology," "support," "processor core," "processor core technology," "custom CPU," "based on ARM licenses," "under," and "under the Nuvia ALA" are vague, ambiguous and overbroad; because the inclusion of "[redacted]" within the definition is inaccurate, vague, or ambiguous; because the definition includes incorrect characterizations or factual assumptions, including but not limited to because it characterizes the "[redacted]" and "custom CPUs" and "processor core technology" developed prior to March 2022 as Nuvia Technology, and because it characterizes CPUs and processor core technology as "Nuvia Technology" if "any aspect, part, portion or component of" was "developed, implemented, improved, or designed based on Arm licenses, deliverables,

materials, technology, or support provided to Nuvia under the Nuvia ALA" regardless of whether development or work occurred at Qualcomm; and because the definition unduly narrows the scope of what can be considered "Nuvia Technology."

9. Defendants object to the definition of "Nuvia-based Products" as vague, ambiguous, overbroad, and unduly burdensome because the terms "incorporating," "based on," "embodying," "involving," "part," "portion," "component," "Semiconductor chip," "processor core," "custom CPU," "Related product," and "commercialized or not," are vague, ambiguous, or overbroad; because it includes incorrect characterizations and factual assumptions, including but not limited to because it characterizes "Nuvia-based products" as products "incorporating, based on, embodying, involving, or related to any part, portion, or component of the Nuvia Technology," but the term "Nuvia Technology" is objectionable as set forth above.

10. Defendants object to the definition of "Arm Trademarks" as overbroad, vague, and ambiguous including but not limited to because, as phrased, it identifies a number of terms as trademarked for which there is no trademark. Qualcomm understands "Arm Trademarks" to refer to the terms trademarked in U.S. Registration Nos. 5,692,669 and 5,692,670.

11. Defendants object to the definitions of "Document" and its plural to the extent they purport to impose any obligations beyond what is required by the Federal Rules. Defendants further object to the definition of "Document" to the extent that it implies that Defendants must collect or produce, e.g., computer programs, testing data, electronic sound records, and other types of files that are typically not required to be collected or produced, as listed in the ESI Protocol Schedule A (D.I. 39).

12. Defendants object to the definitions of "Communication" and its plural form to the extent they purport to impose any obligations beyond what is required by the Federal Rules.

13. Defendants object to the definitions of "Thing" and its plural form to the extent they purport to impose any obligations beyond what is required by the Federal Rules.

14. Defendants object to the definitions of "Identify," Identifying, or "Identification" to the extent they purport to impose any obligations beyond what is required by the Federal Rules. Defendants also object to the definitions of "Identify," Identifying, or "Identification" to the extent they ask Defendants to provide any information unknown to Defendants or not within their possession, custody, or control, or beyond the scope of this litigation, including but not limited to "identifiers known or used by Biogen or others." Defendants further object to the extent it seeks information other than the production of documents responsive to Plaintiff's First Set of Requests for Production. Defendants will not create documents or provide narrative information to identify particular natural persons, entities, things, documents, or conversations.

15. Defendants object to Instruction 1 on the grounds that it imposes obligations beyond those provided for by the Federal Rules of Civil Procedure and the Local Rules of the United States District Court for the District of Delaware.

16. Defendants object to Instruction No. 4 to the extent that it seeks, in the event that Defendants "object to all or part of any of the interrogatories," that Defendants "(a) Identify the specific portion(s) of the interrogatory which You claim You cannot answer because of the alleged defect in the interrogatory; (b) Identify the specific word(s) or phrase(s) to which Your objection relates; (c) state why the alleged ambiguity, vagueness, or overbreadth, for example, prevents You from answering all or part of the interrogatory; and (d) Identify all of the specific portion(s) of the interrogatory to which You are not responding at all based upon this objection," on the grounds that it is overbroad, unduly burdensome, and purports to impose requirements inconsistent with or more burdensome than those imposed by the local rules and applicable law.

17. Defendants object to Instruction 5, to the extent it imposes obligations beyond those required by the Federal Rules of Civil Procedure, and because it is premature and contrary to the provisions in the ESI Protocol or Protective Order (D.I. 38, 39). To the extent not provided in these documents, Defendants will meet and confer with Plaintiff regarding the nature and scope of privilege logs for the case.

18. Defendants object to Instruction 7 to the extent it purports to require Defendants to respond to Interrogatories that are not reasonably limited in time, including on subjects other than those for which such discovery is permitted under the Delaware Default Standard for Discovery or as agreed upon in the parties' anticipated agreement regarding electronic discovery. Defendants will agree to produce documents dating from January 1, 2019 forward, unless otherwise specified.

19. Subject to and without limiting the foregoing, Defendants specifically object and respond as follows:

SUPPLEMENTAL RESPONSES

INTERROGATORY NO. 7:

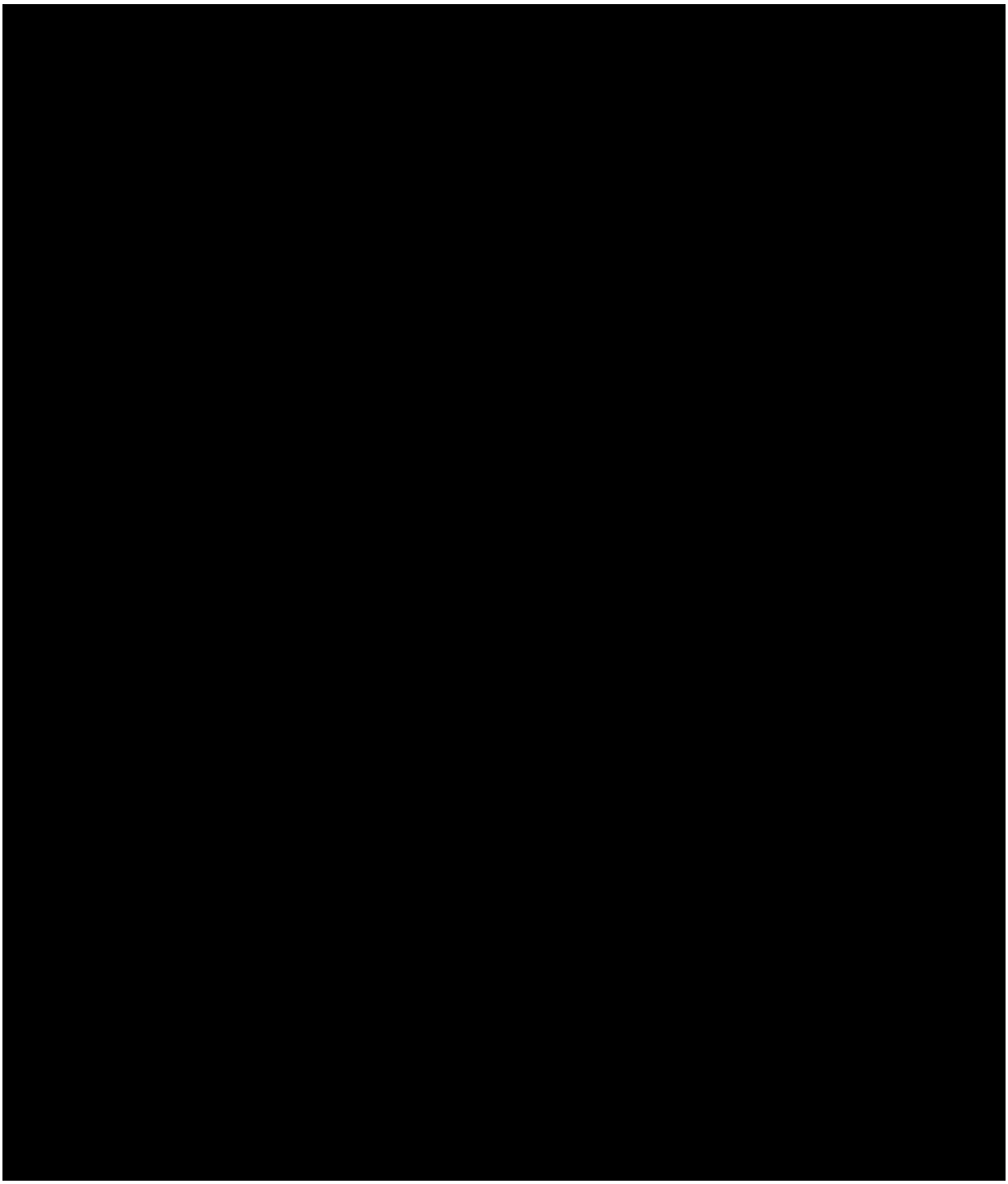
Describe with specificity the negotiations for Nuvia's ALA, including the agreement in principle, drafting, and any analysis of or communications regarding the meaning of its terms. Your answer should include an Identification of the Persons involved in these negotiations.

RESPONSE TO INTERROGATORY NO. 7:

Defendants object to Interrogatory No. 7 on the grounds that the terms "negotiations," "drafting," "analysis," and "involved" are vague and ambiguous. Defendants further object to the Interrogatory as overly broad and unduly burdensome to the extent that it calls for the disclosure of information that is readily within the possession of Plaintiff, or that is more easily available to it, and to the extent it calls for identification of "the Persons involved in" negotiations, instead of seeking identification of Persons who have the most knowledge or direct involvement. Defendants

further object to the Interrogatory to the extent that the information sought is subject to the attorney-client privilege, the attorney work-product doctrine, or any other applicable privilege or doctrine that makes such information non-discoverable.

Subject to and without waiving the foregoing objections, Defendants respond as follows:



Pursuant to Rule 33(d), Defendants will produce documents from which additional information responsive to this Interrogatory may be ascertained.

Based on their investigation to date, Defendants identify the following individual as the person most likely to be knowledgeable about the facts relating to this answer:

- Gerard Williams

Defendants reserve the right to supplement and amend their responses to this Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 7:

Defendants incorporate by reference, as though fully set forth herein, each of their General Objections and Objections to Definitions and Instructions as well as the objections set forth in its initial response to this Interrogatory.

Subject to and without waiving any of its objections, Defendants respond as follows: Defendants incorporate by reference their initial response to this Interrogatory. Defendants further

respond that information responsive to this Interrogatory may be obtained from documents that Defendants have produced or will produce in this litigation, and the burden of ascertaining the answer to this Interrogatory from those documents is substantially the same for Plaintiff as it is for Defendants. *See* Fed. R. Civ. P. 33(d). In particular, Defendants direct Plaintiff's attention to, *e.g.*:

QCARM_0002579, QCARM_0002581, QCARM_0002586, QCARM_0020011, QCARM_0020012, QCARM_0020013, QCARM_0020014, QCARM_0168525, QCARM_0168526, QCARM_0168527, QCARM_0213867, QCARM_0213977, QCARM_0276430, QCARM_0276431, QCARM_0276442, QCARM_0276443, QCARM_0276454, QCARM_0276455, QCARM_0276459, QCARM_0332257, QCARM_0332275, QCARM_0332280, QCARM_0332282, QCARM_0332283, QCARM_0332293, QCARM_0332295, QCARM_0332296, QCARM_0332305, QCARM_0332510, QCARM_2420228, QCARM_2420519, QCARM_2420521, QCARM_2420551, QCARM_2422146, QCARM_2422173, QCARM_2422445, QCARM_2422445, QCARM_2422447, QCARM_2422449, QCARM_3314363, QCARM_3314364, QCARM_3314365, QCARM_3314367, QCARM_3314368, QCARM_3314378, QCARM_3314380, QCARM_3314397, QCARM_3314449, QCARM_3314451, QCARM_3314467, QCARM_3314473, QCARM_3314526, QCARM_3314595, QCARM_3314596, QCARM_3314650, QCARM_3314666, QCARM_3314674, QCARM_3314676, QCARM_3314680, QCARM_3314697, QCARM_3314715, QCARM_3314716, QCARM_3314728, QCARM_3314729, QCARM_3314733, QCARM_3314734, QCARM_3314802, QCARM_3314818, QCARM_3314819, QCARM_3314873, QCARM_3314942, QCARM_3314943, QCARM_3316088, QCARM_3316089, QCARM_3336994, QCARM_3336995, QCARM_3336996, QCARM_3835089, QCARM_3835095, QCARM_3835178, QCARM_3835181, QCARM_3837604, QCARM_3837605, QCARM_3837607, QCARM_3837610, QCARM_3837612, QCARM_3931787, QCARM_7390310, QCARM_7390313, QCARM_7390331, QCARM_7427747, QCARM_7427749, QCARM_7427750, QCARM_7427755, QCARM_7427756, QCARM_7427762, QCARM_7427763, QCARM_7427764, QCARM_7427776, QCARM_7427779, QCARM_7427831, QCARM_7427832, QCARM_7427833, QCARM_7427835, QCARM_7427840, QCARM_7427843, QCARM_7427854, QCARM_7427855, QCARM_7427863, QCARM_7427866, QCARM_7427867, QCARM_7427869, QCARM_7427888.

Defendants reserve the right to further respond or object to, or supplement or amend, this Interrogatory to the extent required and in accordance with Federal Rules of Civil Procedure 26 and 33 and the applicable Local Rules at an appropriate time.

INTERROGATORY NO. 8:

Describe with specificity the negotiations for Qualcomm's ALA, including the agreement in principle, drafting, and any analysis of or communications regarding the meaning of its terms. Your answer should include an Identification of the Persons involved in these negotiations.

RESPONSE TO INTERROGATORY NO. 8:

Defendants object to Interrogatory No. 8 on the grounds that the term "negotiations," "drafting," "analysis," and "involved" are vague and ambiguous. Defendants further object to the Interrogatory as overly broad and unduly burdensome to the extent that it calls for the disclosure of information that is readily within the possession of Plaintiff, or that is more easily available to it and to the extent it calls for identification of "the Persons involved in" negotiations, instead of seeking identification of Persons who have the most knowledge or direct involvement. Defendants further object to the Interrogatory to the extent that that the information sought is subject to the attorney-client privilege, the attorney work-product, or any other applicable privilege or doctrine that makes such information non-discoverable.

Subject to and without waiving the foregoing objections, Defendants state that discussions regarding the Qualcomm ALA began in or about [redacted]. Following initial conversations, Qualcomm and ARM had numerous in-person and telephonic negotiations, and each side exchanged drafts of various contractual documents. [redacted] On May 30, 2013, Qualcomm and ARM executed the ALA.

Pursuant to Rule 33(d), Defendants will produce documents from which additional information responsive to this Interrogatory may be ascertained.

Based on their investigation to date, Defendants identify the following individuals as the persons most likely to be knowledgeable about the facts relating to this answer:

- Jonathan Weiser

- Ronald Tessitore
- Laura Sand
- Rajiv Gupta

Defendants reserve the right to supplement and amend their responses to this Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 8:

Defendants incorporate by reference, as though fully set forth herein, each of their General Objections and Objections to Definitions and Instructions as well as the objections set forth in its initial response to this Interrogatory.

Subject to and without waiving any of its objections, Defendants respond as follows: Defendants incorporate by reference their initial response to this Interrogatory. Defendants further respond that information responsive to this Interrogatory may be obtained from documents that Defendants have produced or will produce in this litigation, and the burden of ascertaining the answer to this Interrogatory from those documents is substantially the same for Plaintiff as it is for Defendants. *See* Fed. R. Civ. P. 33(d). In particular, Defendants direct Plaintiff's attention to, *e.g.*:

QCARM_3419382,	QCARM_3419501,	QCARM_3420239,	QCARM_3420240,
QCARM_3420311,	QCARM_3420312,	QCARM_3420678,	QCARM_3420810,
QCARM_3420819,	QCARM_3422349,	QCARM_3423492,	QCARM_3423496,
QCARM_3423557,	QCARM_3423562,	QCARM_3960889,	QCARM_3961506,
QCARM_3961713,	QCARM_3961720,	QCARM_3961754,	QCARM_3961758,
QCARM_7400963,	QCARM_7401071,	QCARM_7428417,	QCARM_7429140,
QCARM_7429142,	QCARM_7429253,	QCARM_7429267,	QCARM_7429285,
QCARM_7429290,	QCARM_7429292,	QCARM_7429302,	QCARM_7429307,
QCARM_7429312,	QCARM_7430008,	QCARM_7430122,	QCARM_7430130,
QCARM_7430291,	QCARM_7430329,	QCARM_7430911,	QCARM_7431064,
QCARM_7431135,	QCARM_7431138,	QCARM_7431143,	QCARM_7431165,
QCARM_7431652,	QCARM_7431653,	QCARM_7431654,	QCARM_7431677,
QCARM_7431792,	QCARM_7431794,	QCARM_7432178,	QCARM_7432817,
QCARM_7433013,	QCARM_7433632,	QCARM_7434208,	QCARM_7474743,
QCARM_7474754,	QCARM_7474849,	QCARM_7474905,	QCARM_7474914,
QCARM_7475075,	QCARM_7475172,	QCARM_7475216,	QCARM_7475224,

QCARM_7475235, QCARM_7475236, QCARM_7475323, QCARM_7475327, QCARM_7475352, QCARM_7475534, QCARM_7475536, QCARM_7475754, QCARM_7476055, QCARM_7475235, QCARM_7476195, QCARM_7476653, QCARM_7476771, QCARM_7476799, QCARM_7476860.

Defendants reserve the right to further respond or object to, or supplement or amend, this Interrogatory to the extent required and in accordance with Federal Rules of Civil Procedure 26 and 33 and the applicable Local Rules at an appropriate time.

INTERROGATORY NO. 9:

Describe with specificity the timeline for Qualcomm's acquisition of Nuvia, including Identifying when Qualcomm began contemplating the acquisition, when Qualcomm conducted or obtained any analysis of the potential acquisition, and when and how Qualcomm first became aware of the consent to assignment requirements of [redacted] of Nuvia's ALA. Your answer should include an Identification of the Persons involved in this process.

RESPONSE TO INTERROGATORY NO. 9:

Defendants object to Interrogatory No. 9 on the grounds that the terms "began contemplating," "conducted or obtained any analysis," "this process, "and "involved" are vague and ambiguous. Defendants further object to the Interrogatory as overly broad and unduly burdensome to the extent it calls for identification of "the Persons involved in this process," instead of seeking identification of Persons who have the most knowledge or direct involvement. Defendants also object to the Interrogatory's characterization of [redacted] of Nuvia's ALA, which did not require Qualcomm to seek ARM's consent for Qualcomm's use and continued development of technology acquired from Nuvia. Defendants further object to Interrogatory No. 9 to the extent that that the information sought is subject to the attorney-client privilege, the attorney work-product, or any other applicable privilege or doctrine that makes such information non-discoverable.

Subject to and without waiving the foregoing objections, pursuant to Rule 33(d), Defendants will produce non-privileged documents from which information about the timeline for

and analysis related to Qualcomm's acquisition of Nuvia responsive to this Interrogatory may be ascertained.

In further response, Defendants state that [redacted] On January 12, 2021, Qualcomm and Nuvia signed a definitive agreement. On January 28, 2021, Qualcomm sent ARM notice regarding the Nuvia ALA.

Based on their investigation to date, Defendants identify the following individuals as the persons most likely to be knowledgeable about the facts relating to this answer:

- Ziad Asghar
- James Thompson
- Larissa Cochron, with respect to knowledge of the consent provision and assignment provisions of the Nuvia ALA.

Defendants reserve the right to supplement and amend their responses to this Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 9:

Defendants incorporate by reference, as though fully set forth herein, each of their General Objections and Objections to Definitions and Instructions as well as the objections set forth in its initial response to this Interrogatory.

Subject to and without waiving any of its objections, Defendants respond as follows: Defendants incorporate by reference their initial response to this Interrogatory. Defendants further respond that information responsive to this Interrogatory may be obtained from documents that Defendants have produced or will produce in this litigation, and the burden of ascertaining the answer to this Interrogatory from those documents is substantially the same for Plaintiff as it is for

Defendants. *See* Fed. R. Civ. P. 33(d). In particular, Defendants direct Plaintiff's attention to, *e.g.*:

QCARM_0025838, QCARM_0027870, QCARM_0221543, QCARM_0568828, QCARM_0584330, QCARM_0591730, QCARM_0591733, QCARM_0591737, QCARM_0591741, QCARM_3452169, QCARM_3452404, QCARM_3460229, QCARM_3471248, QCARM_3520210, QCARM_3520220, QCARM_3520357, QCARM_3520359, QCARM_3522617, QCARM_3522619, QCARM_3536524, QCARM_3536526, QCARM_3536527, QCARM_3536531, QCARM_3536617, QCARM_3536625, QCARM_3536626, QCARM_3536683, QCARM_3536686, QCARM_3536689, QCARM_3536691, QCARM_3536708, QCARM_3536902, QCARM_3537773, QCARM_3965653.

Defendants reserve the right to further respond or object to, or supplement or amend, this Interrogatory to the extent required and in accordance with Federal Rules of Civil Procedure 26 and 33 and the applicable Local Rules at an appropriate time.

INTERROGATORY NO. 10:

Describe with specificity Your development and business plans for products based on or incorporating the Nuvia Technology, including Nuvia's development and business plans, Qualcomm's development and business plans, and how those plans changed based on Qualcomm's acquisition of Nuvia, Arm's notice of intent to terminate Nuvia's ALA, or the termination of Nuvia's ALA. Your answer should include an Identification of the Persons most knowledgeable about Your answer.

RESPONSE TO INTERROGATORY NO. 10:

Defendants object to Interrogatory No. 10 on the ground that the terms "Nuvia Technology," "products," "development," "business plans," "based on," and "incorporating" are vague and ambiguous. Defendants object to the Interrogatory to the extent that it seeks information that is not relevant to any of the claims or defenses in this case. Defendants further object to the Interrogatory to the extent that that the information sought is subject to the attorney-client privilege, the attorney work-product, or any other applicable privilege or doctrine that makes such information non-discoverable.

Subject to and without waiving the foregoing objections, pursuant to Rule 33(d), Defendants will produce non-privileged documents from which information responsive to this Interrogatory may be ascertained.

Based on their investigation to date, Defendants identify the following individual as the person most likely to be knowledgeable about the facts relating to this answer:

- Ziad Asghar

Defendants reserve the right to supplement and amend their responses to this Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 10:

Defendants incorporate by reference, as though fully set forth herein, each of their General Objections and Objections to Definitions and Instructions as well as the objections set forth in its initial response to this Interrogatory.

Subject to and without waiving any of its objections, Defendants respond as follows: Defendants incorporate by reference their initial response to this Interrogatory. Defendants further respond that information responsive to this Interrogatory may be obtained from documents that Defendants have produced or will produce in this litigation, and the burden of ascertaining the answer to this Interrogatory from those documents is substantially the same for Plaintiff as it is for Defendants. *See* Fed. R. Civ. P. 33(d). In particular, Defendants direct Plaintiff's attention to, *e.g.*:

QCARM_0213942,	QCARM_0363885,	QCARM_0573247,	QCARM_0581129,
QCARM_0582348,	QCARM_0582364,	QCARM_0582404,	QCARM_0582432,
QCARM_0582537,	QCARM_2416588,	QCARM_2451209,	QCARM_2460812,
QCARM_2533273,	QCARM_2535298,	QCARM_2538307,	QCARM_2546648,
QCARM_3313522,	QCARM_3323200,	QCARM_3401596,	QCARM_3421145,
QCARM_3459811,	QCARM_3463250,	QCARM_3493939,	QCARM_3494007,
QCARM_3497455,	QCARM_3501842,	QCARM_3502752,	QCARM_3503368,
QCARM_3503984,	QCARM_3505454,	QCARM_3505790,	QCARM_3506137,
QCARM_3506835,	QCARM_3507686,	QCARM_3507821,	QCARM_3509384,
QCARM_3509390,	QCARM_3509400,	QCARM_3509445,	QCARM_3509490,

QCARM_3509521, QCARM_3509557, QCARM_3509567, QCARM_3509570, QCARM_3509587, QCARM_3509698, QCARM_3509817, QCARM_3509931, QCARM_3510053, QCARM_3510179, QCARM_3510304, QCARM_3510428, QCARM_3930994, QCARM_7435122, QCARM_7435123, QCARM_7435124, QCARM_7435125, QCARM_7436856, QCARM_7437736, QCARM_7438194, QCARM_7438294, QCARM_7440198, QCARM_7440308, QCARM_7446033, QCARM_7452518, QCARM_7452521, QCARM_7452766, QCARM_7453646, QCARM_7455928, QCARM_7461735, QCARM_7461738, QCARM_7461740, QCARM_7461741, QCARM_7461795, QCARM_7461851, QCARM_7461906, QCARM_7461968, QCARM_7462022, QCARM_7462089, QCARM_7462157, QCARM_7462228, QCARM_7462299, QCARM_7462380, QCARM_7462464, QCARM_7462549, QCARM_7462634, QCARM_7462719, QCARM_7462807, QCARM_7462900, QCARM_7462994, QCARM_7463084, QCARM_7463175, QCARM_7463275, QCARM_7463380, QCARM_7463488, QCARM_7463597, QCARM_7463709, QCARM_7463823, QCARM_7463929, QCARM_7464035, QCARM_7464139, QCARM_7464241, QCARM_7464343, QCARM_7464443, QCARM_7464548, QCARM_7464653, QCARM_7464758, QCARM_7464862, QCARM_7464969, QCARM_7465070, QCARM_7465175, QCARM_7465288, QCARM_7465402, QCARM_7465523, QCARM_7465644, QCARM_7465765, QCARM_7465879, QCARM_7465962, QCARM_7466076, QCARM_7466191, QCARM_7466306, QCARM_7466421, QCARM_7466537, QCARM_7466656, QCARM_7466779, QCARM_7466872, QCARM_7466996, QCARM_7467119, QCARM_7467248.

Defendants reserve the right to further respond or object to, or supplement or amend, this Interrogatory to the extent required and in accordance with Federal Rules of Civil Procedure 26 and 33 and the applicable Local Rules at an appropriate time.

INTERROGATORY NO. 11:

Identify all processor cores, designs, or products, including Nuvia Technology or Nuvia based Products, that You have worked on developing under the Nuvia or Qualcomm ALAs since January 1, 2020. For each such processor core, design, or product, provide the name, model or product number(s), intended market (e.g., "compute," "mobile," etc.), ALA(s) under which it was developed, approximate dates of development under each ALA, and the Persons most knowledgeable about that development.

RESPONSE TO INTERROGATORY NO. 11:

Defendants object to the Interrogatory on the ground that the terms "worked on developing," "processor cores," "designs," "products," "Nuvia-based," "under which it was developed," and "development" are vague and ambiguous. Defendants object to the Interrogatory

on the ground that it is overbroad and unduly burdensome, as it seeks information about "all" processor cores, designs, or products, including those that do not incorporate technology acquired from Nuvia, and to the extent that it seeks information prior to the acquisition of Nuvia on March 16, 2021. Defendants further object to the Interrogatory as seeking information not relevant to any party's claim or defense, as Arm has identified no basis for discovery directed at Qualcomm regarding "processor cores, designs, or products" that do not incorporate technology acquired from Nuvia.

Subject to and without waiving the foregoing objections, pursuant to Rule 33(d), Defendants will produce non-privileged documents from which information responsive to this Interrogatory may be ascertained.

Based on their investigation to date, Defendants identify the following individuals as the persons most likely to be knowledgeable about the facts relating to this answer:

- Pradeep Kanapathipillai
- Gerard Williams
- Ziad Asghar

Defendants reserve the right to supplement and amend their responses to this Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 11:

Defendants incorporate by reference, as though fully set forth herein, each of their General Objections and Objections to Definitions and Instructions as well as the objections set forth in its initial response to this Interrogatory.

Subject to and without waiving any of its objections, Defendants respond as follows: Defendants incorporate by reference their initial response to this Interrogatory. Defendants state

[redacted]

[redacted] Defendants further respond that information responsive to this Interrogatory may be obtained from documents that Defendants have produced or will produce in this litigation, and the burden of ascertaining the answer to this Interrogatory from those documents is substantially the same for Plaintiff as it is for Defendants. *See* Fed. R. Civ. P. 33(d). In particular, Defendants direct Plaintiff's attention to, *e.g.*:

QCARM_0213942, QCARM_0573247, QCARM_0581129, QCARM_2416588, QCARM_2451209, QCARM_2460812, QCARM_2533273, QCARM_2535298, QCARM_2538307, QCARM_2546648, QCARM_3313522, QCARM_3459811, QCARM_3463250, QCARM_3493939, QCARM_3494007, QCARM_3497455, QCARM_3501842, QCARM_3502752, QCARM_3503368, QCARM_3503984, QCARM_3505454, QCARM_3505790, QCARM_3506137, QCARM_3506835, QCARM_3507686, QCARM_3507821, QCARM_3930994, QCARM_7435122, QCARM_7435123, QCARM_7435124, QCARM_7435125, QCARM_7436856, QCARM_7437736, QCARM_7438194, QCARM_7438294, QCARM_7440198, QCARM_7440308, QCARM_7446033, QCARM_7452518, QCARM_7452521, QCARM_7452766, QCARM_7453646, QCARM_7455928.

Defendants reserve the right to further respond or object to, or supplement or amend, this Interrogatory to the extent required and in accordance with Federal Rules of Civil Procedure 26 and 33 and the applicable Local Rules at an appropriate time.

INTERROGATORY NO. 12:

For each processor core, design, or product, including Nuvia Technology or Nuvia-based Products, Identified in response to Interrogatory No. 11, Identify its commercialization timeline, including the dates on which You did or intend to: complete the verification process; sample the Nuvia Technology or Nuvia-based Products to Your actual or potential customers; attempt to contract for sales; manufacture; advertise or promote; or distribute. Your answer should include an Identification of the Persons most knowledgeable about each phase Identified in Your answer, and

for any sampling or attempts to contract for sales, a description of the activity, the outcome of the activity, and an Identification of all Persons involved in such activity.

RESPONSE TO INTERROGATORY NO. 12:

Defendants object to the Interrogatory on the ground that the terms "Nuvia Technology," "Nuvia-based Products," "processor cores," "designs," "products," "advertise or promote," distribute," "sample" and "involved in" are vague and ambiguous. Defendants further object to the Interrogatory on the ground that it is overbroad and unduly burdensome, as it seeks information about "all" Persons "involved in" certain activities, regardless of the nature and extent of their involvement and without limitation.

Subject to and without waiving the foregoing objections, Defendants respond as follows:

Pursuant to Rule 33(d), Defendants will produce non-privileged documents from which information responsive to this Interrogatory may be ascertained.

In further response, Defendants state that [redacted]

Based on their investigation to date, Defendants identify the following individuals as the persons most likely to be knowledgeable about the facts relating to this answer:

- Ziad Asghar
- Jignesh Trivedi with respect to the verification timelines.

Defendants reserve the right to supplement and amend their responses to this Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 12:

Defendants incorporate by reference, as though fully set forth herein, each of their General Objections and Objections to Definitions and Instructions as well as the objections set forth in its initial response to this Interrogatory.

Subject to and without waiving any of its objections, Defendants respond as follows: Defendants incorporate by reference their initial response to this Interrogatory. Defendants further respond that information responsive to this Interrogatory may be obtained from documents that Defendants have produced or will produce in this litigation, and the burden of ascertaining the answer to this Interrogatory from those documents is substantially the same for Plaintiff as it is for Defendants. *See* Fed. R. Civ. P. 33(d). In particular, Defendants direct Plaintiff's attention to, *e.g.*: QCARM_0557206, QCARM_2413042, QCARM_3059661, QCARM_3066935, QCARM_3067778, QCARM_3337860, QCARM_3337862, QCARM_3339346, QCARM_3433502, QCARM_3944081, and the documents identified in response to Interrogatory No. 11.

Defendants reserve the right to further respond or object to, or supplement or amend, this Interrogatory to the extent required and in accordance with Federal Rules of Civil Procedure 26 and 33 and the applicable Local Rules at an appropriate time.

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November 17, 2023

CERTIFICATE OF SERVICE

I hereby certify that on November 17, 2023, copies of the foregoing were caused to be served upon the following in the manner indicated:

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EXHIBIT 23

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARM LTD., a U.K. corporation,
Plaintiff,

v.

QUALCOMM INC., a Delaware corporation, QUALCOMM TECHNOLOGIES, INC., a Delaware corporation, and NUVIA, INC., a Delaware corporation,
Defendants.

C.A. No. 22-1146-MN

CONTAINS HIGHLY CONFIDENTIAL – SOURCE CODE-ATTORNEYS' EYES ONLY

OPENING EXPERT REPORT OF DR. SHUO-WEI (MIKE) CHEN ON QUALCOMM SOURCE CODE

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I. INTRODUCTION

1. My name is Dr. Shuo-Wei (Mike) Chen and I have been retained as an expert witness on behalf of the Plaintiff Arm Ltd. in this matter. I understand that Arm has sued Defendants Qualcomm Inc., Qualcomm Technologies, Inc., and Nuvia, Inc. in the District of Delaware in the case captioned *Arm Ltd. v. Qualcomm Inc. et al.*, No. 1-22-cv-001146-MN (D. Del.). Among other things, I have been asked to review source code produced by Qualcomm and Nuvia in this litigation and analyze (1) similarities between versions of source code and (2) inclusion of various features of Arm's architecture within the source code. I am being compensated for my time in connection with this proceeding at $650/hour. My compensation is not dependent on the substance of my opinions, my testimony, or the outcome of this proceeding.

II. BACKGROUND

2. I am a technical expert in digital, analog, and mixed-signal integrated circuit (IC) design. My expertise extends to Register-Transfer Level (RTL) code that is used in digital microprocessors and processors, digital ASICs, and system-on-a-chip (SOC) designs. RTL code, written in Hardware Description Languages (HDLs) like Verilog and VHDL, describe the functionality of hardware components that are ultimately fabricated on devices like processors and SOCs. I have attached my CV as Exhibit A to this report.

3. I graduated with a Bachelor of Science in Electrical Engineering in 1998 from National Taiwan University, where I was ranked number 1 in the upper division. I received a master's degree in Electrical Engineering and Computer

Science from the University of California, Berkeley in 2002. In 2006, I completed my Ph.D. in Electrical Engineering and Computer Science from the University of California, Berkeley.

4. I am currently a Professor of Electrical and Computer Engineering at the University of Southern California (USC). My current research involves building electronic circuits and systems that involve intensive digital signal processing, where RTL coding is an essential step for implementing the digital processor on our silicon chips. Prior to USC, I worked in industry for 5 years (2006-2011), building various SOC products that used microprocessors for communications. I have been a professor at USC since 2011.

5. I have engaged in projects and published papers that involved digital microprocessor/processor design. For example, I worked on an SOC product in industry that I described in a publication in ISSCC 2008 and JSSC 2008, entitled "A Dual-Band CMOS MIMO Radio SoC for IEEE 802.11n Wireless LAN." Another exemplary work involves a digital processor described in an ISSCC 2020 paper, entitled "A 40MHz-BW 76.2dB/78.0dB SNDR/DR noise-shaping nonuniform sampling ADC with single phase-domain level crossing and embedded nonuniform digital signal processor in 28nm CMOS." My work on these projects included writing a significant amount of RTL code.

6. I have received awards for my work and research. In 2023, I was elevated to IEEE Fellow (class of 2024) in recognition of my technical contributions in solid-state circuit society. In 2022, I was the co-recipient of the ISSCC Jack Kilby

Award for outstanding achievements in a circuit prototype that leveraged intensive digital signal processing. That same year, I was the co-recipient for the RFIC 2022 Best Student Paper Award for a circuit prototype that also leveraged digital signal processing techniques for a communication system. I was the IEEE Solid-State Circuit Society (SSCS) Distinguished Lecturer from 2021-2023. I have been invited to offer seminars, workshops, keynote talks, and panel discussions in major IEEE conferences, IEEE SSCS chapters, and universities regarding mostly digital circuit architecture for modern integrated circuit design, *i.e.* leveraging digital signal processors for improving the performance and/or reduce cost of the circuit and system.

III. MATERIALS CONSIDERED

7. In addition to my personal knowledge and expertise in the field, I have reviewed RTL source code produced by Qualcomm in this case. Based on my review of the source code and correspondence from Qualcomm's counsel (*see* 9/12/2023 email from J. Braly to F. Patel), I understand that Qualcomm produced source code for the following "list of SOCs and cores":

- [redacted]
  - March 14, 2021
  - February 28, 2022
  - April 1, 2022
  - October 24, 2022
- [redacted]
  - July 30, 2021

- April 13, 2023
- October 24, 2023

- [redacted]
  - January 11, 2022
  - July 28, 2023
- [redacted][1] [redacted]
  - February 21, 2023
  - July 28, 2023
- [redacted]
  - July 28, 2023

8. I have personally reviewed this source code on a desktop computer produced by Qualcomm in Los Angeles, CA on the following dates in 2023: September 15/19/21/22, October 3/4/5/12/13/16/19/20/25/26, November 13/17/20/28/29, and December 1/8/11/12/13/14/15/18. I have spent a total of approximately 160 hours reviewing source code in this case. I have requested that Qualcomm produce printed source code and have relied on the requested source code. Qualcomm has produced printed source code in this case beginning at Bates No: QSC1ARMVQ0000001 but has not completed producing the printed source code that I have requested as of my signing of this report.

9. I have also reviewed various additional materials in forming my opinions. I reviewed (1) Arm's Complaint filed in this case on August 31, 2022;

[1] The spelling is from 9/12/2023 email from J. Braly to F. Patel, but the correct spelling appears to be [redacted]

(2) the deposition transcripts of Qualcomm witnesses Gerard Williams, Manu Gulati, Nitin Sharma, Jignesh Trivedi, and Pradeep Kanapathipillai; and (3) the deposition transcript of Arm witness Richard Grisenthwaite. Counsel for Arm has provided me with access to all of the deposition transcripts in this litigation, which I have browsed through for background information about the litigation.

10. I have reviewed the following technical documents produced by Qualcomm and Nuvia:

[redacted]

11. I have included a list of materials considered as Exhibit B to this report.

IV. FACTUAL BACKGROUND

12. Based on my review of the factual materials listed above and public sources, I have the following understanding: Nuvia was founded in early 2019 by

three former Apple employees named Gerard Williams, Manu Gulati, and John Bruno.[2] Nuvia's goal was to develop a faster and more power-efficient CPU core for data center applications. The code name for this CPU core was [redacted] Nuvia also developed an SOC called [redacted] that incorporated the [redacted] CPU core.

13. In December 2020, Nuvia provided a presentation to Qualcomm that included details about the [redacted] core, including the various CPU blocks. ([redacted])

14. On January 21, 2021, Qualcomm announced an agreement to purchase Nuvia.[3]

15. On March 15, 2021, Qualcomm announced that it completed its acquisition of Nuvia.[4]

16. After the acquisition of Nuvia, the former-Nuvia employees now at Qualcomm continued to develop the [redacted] core. [redacted]

[2] Stephen Nellis, *Former Apple chip executives found company to take on Intel, AMD*, REUTERS, https://www.reuters.com/article/us-nuvia-tech-idUSKBN1XP19V/?taid=5dcefd5c1dd1a30001b949f0&utm_campaign=trueAnthem%3A+Trending+Content&utm_medium=trueAnthem&utm_source=twitter (last visited December 18, 2023).

[3] QUALCOMM, Press Release: Qualcomm to Acquire NUVIA (Jan. 21, 2021), https://www.qualcomm.com/news/releases/2021/01/qualcomm-acquire-nuvia (last visited December 18, 2023).

[4] QUALCOMM, Press Note: Qualcomm Completes Acquisition of NUVIA (Mar. 15, 2021),https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia (last visited December 18, 2023).

[redacted] The [redacted] (QCARM_3041647) shows the development of [redacted] at Qualcomm using a Nuvia CPU. Similarly, the document entitled "[redacted]" states that [redacted] (QCARM_0181949 at -950). The "[redacted]" document indicates that [redacted] (QCARM_0169739 at -744.)

17. Qualcomm developed several other SOCs [redacted]

V. ANALYSIS AND OPINIONS

A. Summary of Opinions

18. I have been asked to perform both quantitative and qualitative substantive analyses of the RTL code produced by Qualcomm in this case. On the quantitative side, I have been asked to determine the extent to which source code developed by Nuvia prior to the Qualcomm acquisition is identical to source code in

Qualcomm's products.[5] Based on my analysis, and as further described below, it is my opinion that [redacted] I was also asked to compare the February 28, 2022 [redacted] code with the April 1, 2022 [redacted] code, and I determined that [redacted]

19. On the qualitative side, I have been asked to identify some specific exemplary features of the Arm architecture in the March 14, 2021 [redacted] RTL code that are still present in SOCs/cores post-acquisition. Based on my analysis, and as further described below, it is my opinion that the March 14, 2021 [redacted] RTL code [redacted]

B. Quantitative Approach: RTL Written by Nuvia is Identical in Qualcomm's SOCs/Cores

1. Summary of quantitative approach

20. I performed a quantitative analysis to determine the similarity of source code across different versions of code produced by Qualcomm using the following methodology.

[5] RTL code is written as text, so I was able to use computer tools to compare text files of RTL code to determine lines of code from versions of the same file that was literally identical to one another.

21. First, I relied on the technical documents produced by Qualcomm and Nuvia and the deposition testimony listed in § III to understand some background about Nuvia and Qualcomm's engineering efforts and their nomenclature. I learned that before the Qualcomm acquisition, Nuvia began working on a CPU core ultimately called [redacted] [redacted] was a custom core that Nuvia designed to implement the Arm architecture and instruction set. Nuvia's design incorporated [redacted] Nuvia further designed an SOC intended for data centers, called [redacted] which included [redacted]. I also learned that after Qualcomm purchased Nuvia, Qualcomm planned on incorporating the [redacted] core into its own SOCs called [redacted]. I learned that Qualcomm planned on designing [redacted].

22. I also used the technical documentation to identify the design hierarchy of Nuvia's [redacted] core and the [redacted] I then studied the design directory for the source code produced by Qualcomm. I located the RTL code corresponding to each SOC/core that Qualcomm indicated it had produced: [redacted] I found the RTL under: [redacted] For example, Qualcomm saved the March 14, 2021 [redacted] code under [redacted] on the source code desktop.

23. Under each SOC/core folder, I was able to find the subfolders that corresponded to key building blocks of the SOC/core. For instance, I determined

that the RTL code at the [redacted] was stored under [redacted]. I then examined the top-level RTL at the [redacted] and studied the RTL building blocks it instantiates throughout the design hierarchy. [redacted] By mapping the building blocks across different code versions, I was able to compare corresponding RTL code between different SOCs/cores identified by Qualcomm.

24. I used the March 14, 2021 [redacted] code as the baseline. [redacted] I summarize the key folders in Table 1, below.

25. The March 14, 2021 [redacted] code is dated one day before Qualcomm completed its acquisition of Nuvia. Thus, I understand that the March 14, 2021 [redacted] code reflects the code that Nuvia worked on before the Qualcomm acquisition. I compared the March 14, 2021 [redacted] code against all of the other, subsequent versions of code produced by Qualcomm using a tool called Beyond Compare, which was installed on the source code desktop. My goal was to assess whether and to what extent the March 14, 2021 [redacted] code remained the same in the subsequent code.

26. I performed this quantitative analysis in two ways in the source code: (1) identifying key folders and comparing files within those folders across different SOC/core versions, and (2) identifying top-level RTL files of key building blocks and comparing each of the RTL files across different SOC/core versions. The results of both quantitative analyses are the same: [redacted]

27. It is noteworthy that I used the default skew tolerance setting in the Beyond Compare tool. With this default setting, Beyond Compare will search up to 2,000 lines above or below the current line for a matching line during text alignment. I reserve the right to conduct additional testing with a different skew tolerance in response to rebuttal arguments by Qualcomm or its experts.

2. Comparing folder contents across SOC/core versions

28. As part of my analysis, I identified important source code folders in the baseline March 14, 2021 [redacted] code. I mainly focused on the source code folders related to [redacted][6] [redacted]. In the below table, I identify the folders and explain the importance of each folder. Some of the CPU block folders contain [redacted]

[6] [redacted] (*See, e.g.*, QCARM_2551809 [redacted] at -819.)

[redacted]

[redacted]

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Table 1: Key Source Code Folders

29. Since I was asked to analyze source code related to the [redacted] core, there were folders on the source code desktop that I did not consider in my analysis. First, I omitted anything outside of the [redacted]. For instance, I did not consider the [redacted], which contains [redacted]. Within the [redacted] folder, I did not consider [redacted]

30. For the folders that I did consider, I used the folder comparison function of the Beyond Compare tool to compare the contents of the folders in Table 1 from the March 14, 2021 [redacted] code to the contents from the same folders in other SOC/core versions produced by Qualcomm. I did two types of analyses.

31. First, I analyzed the number of common file names within the corresponding folders and calculated the file name similarity (in %). The Beyond

Compare tool reports the number of files that do not have common names, so-called "orphan files." I calculated the number of common files names by subtracting the total number of files in the folder by the number of orphan files reported by Beyond Compare. I then calculated the file name similarity (%) as the number of common file names divided by the total number of files in the folder of SOC/core version under comparison.

32. Second, I analyzed the line similarity (in %) within all the files in the corresponding folders. I used the folder comparison function of the Beyond Compare tool to generate a statistical report (in csv format). The statistical report showed the total number of original, deleted, and changed important/unimportant lines of all the files in the corresponding folder. I then used this spreadsheet to calculate the important line similarity (in %) between the March 14, 2021 Nuvia [redacted] code and other SOCs/cores produced by Qualcomm. For any given comparison between two files, the important line similarity (in %) is defined as the number of identical important lines divided by the total number of original important lines. As shown in the tables below, I was able to determine that [redacted] I have also found the naming

convention of RTL code documented in a technical document, named [redacted] [redacted] (QCARM_2551809).

[redacted]	[redacted]	[redacted]		[redacted]		[redacted]	
		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted] [redacted]

Table 2: Comparing 3/14/2021 [redacted] Code Folders With [redacted]

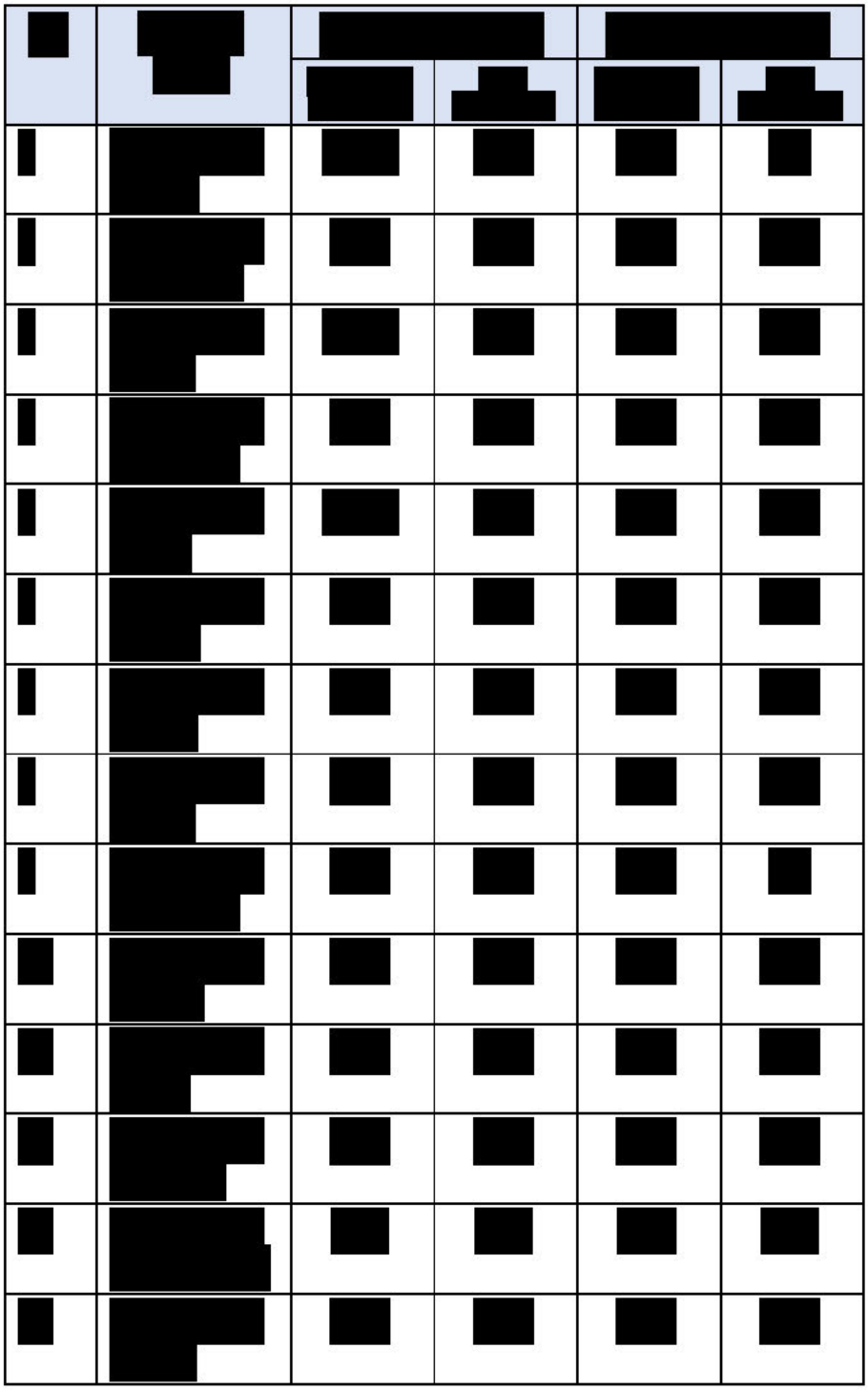


Table 3: Comparing 3/14/2021 [redacted] Code Folders With [redacted]

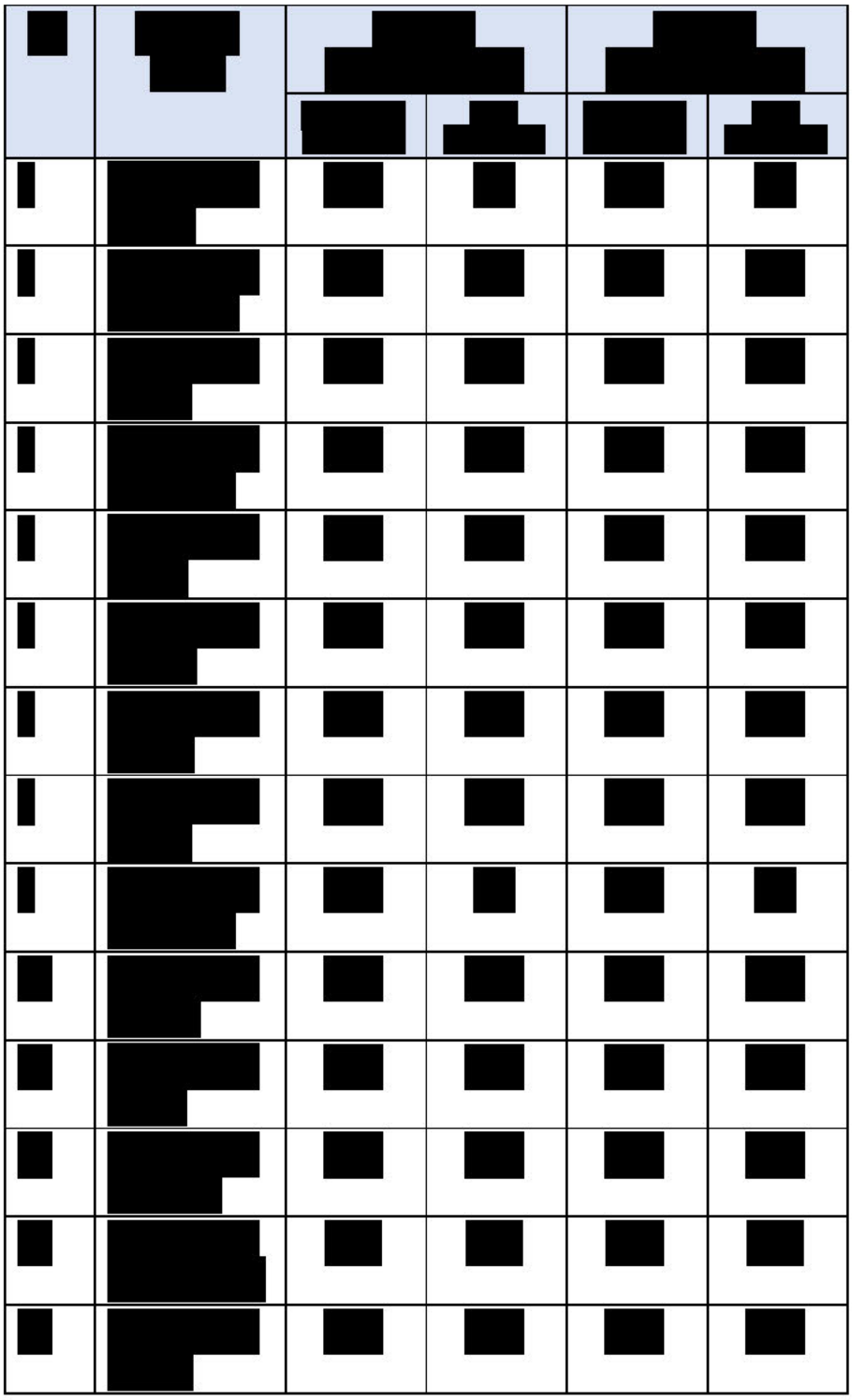


Table 4: Comparing 3/14/2021 [redacted] Code Folders With [redacted]

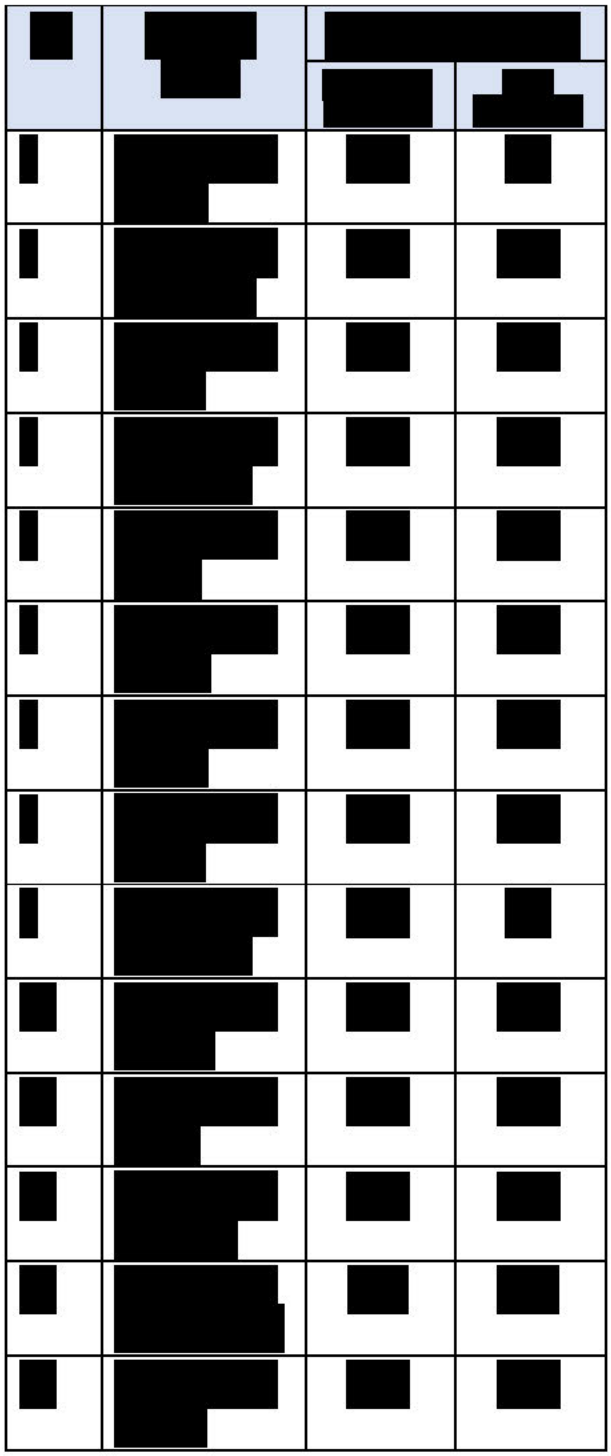


Table 5: Comparing 3/14/2021 [redacted] Code Folders With [redacted]

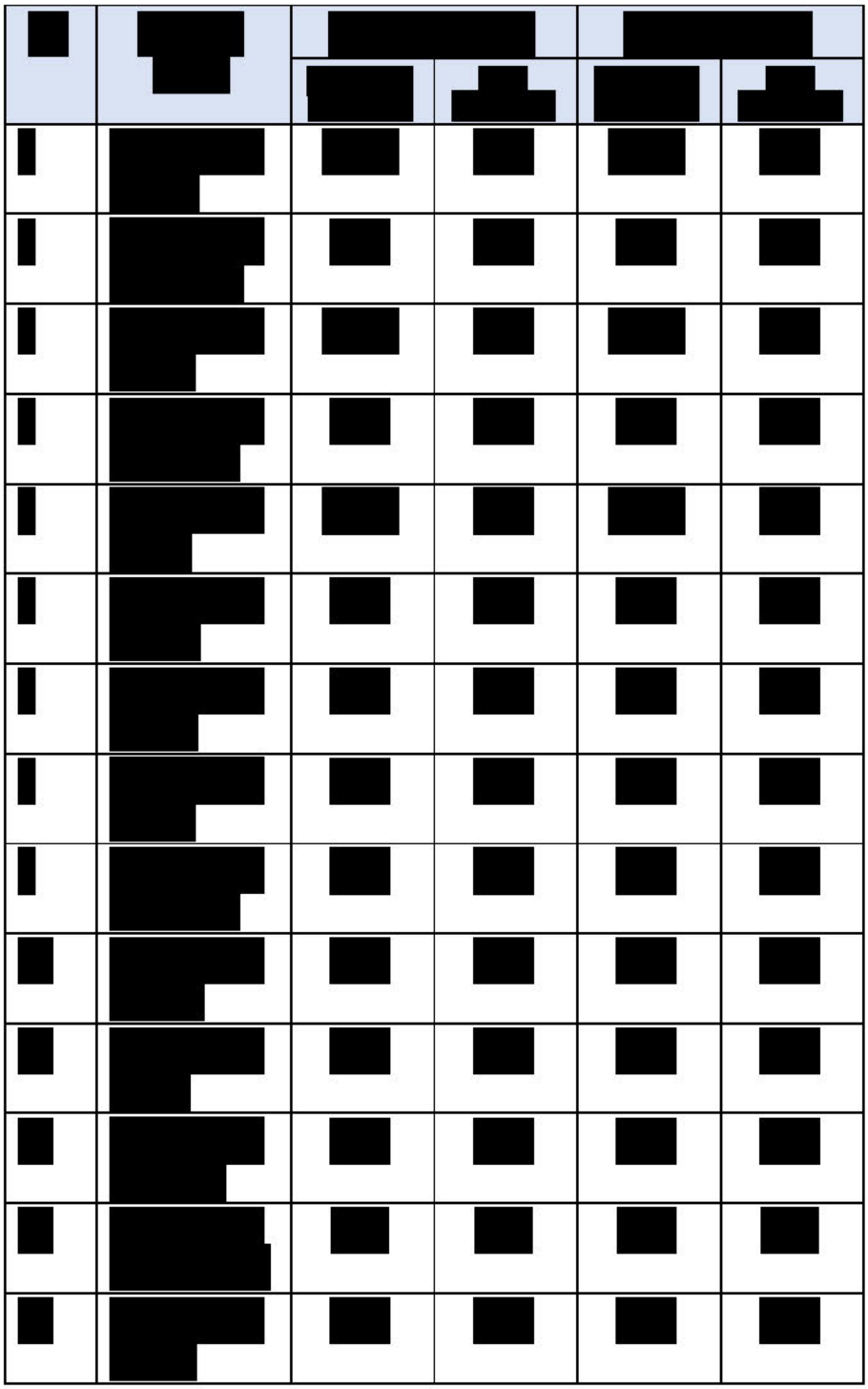


Table 6: Comparing 3/14/2021 Code Folders With

3. Comparing Key RTL Files Across SOC/core Versions

33. As part of my analysis, I identified important source code files in the March 14, 2021 [redacted] code. These files are important because they are the top-level RTL code files in the important design hierarchies and key functional CPU blocks as listed in Table 1. In the table below, I identify the files and explain the specific importance of each file.

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Table 7: Key Source Code Files

34. I compared these key source code files between the SOC/core version under comparison and the March 14, 2021 [redacted] code. For this analysis, I used the file comparison function of the Beyond Compare tool, which reports the number of identical lines between two selected files. I then recorded the number of identical lines and calculated the line similarity (in %), defined as the number of identical lines divided by the total number of lines in the RTL file under comparison. Thus,

for any comparison of two files, the term "line similarity" means the percentage of identical lines of code between the two files. The table below summarizes my analysis.

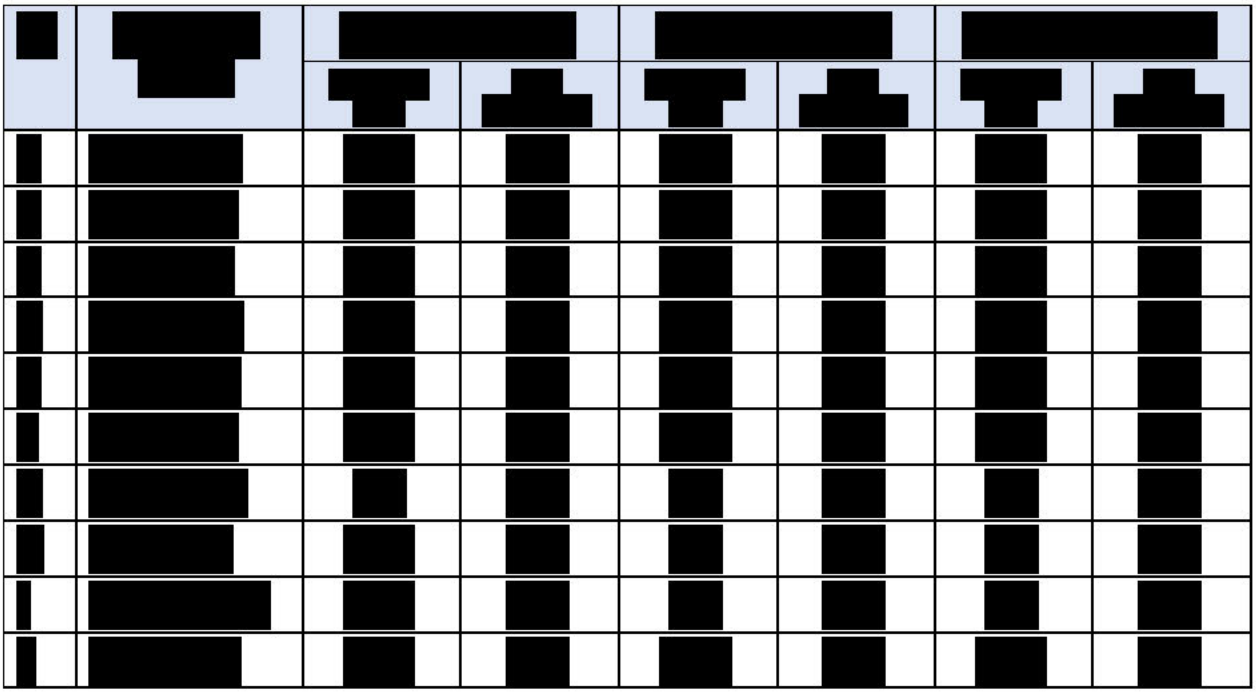


Table 8: Comparing 3/14/2021 [redacted] Code Files With [redacted]

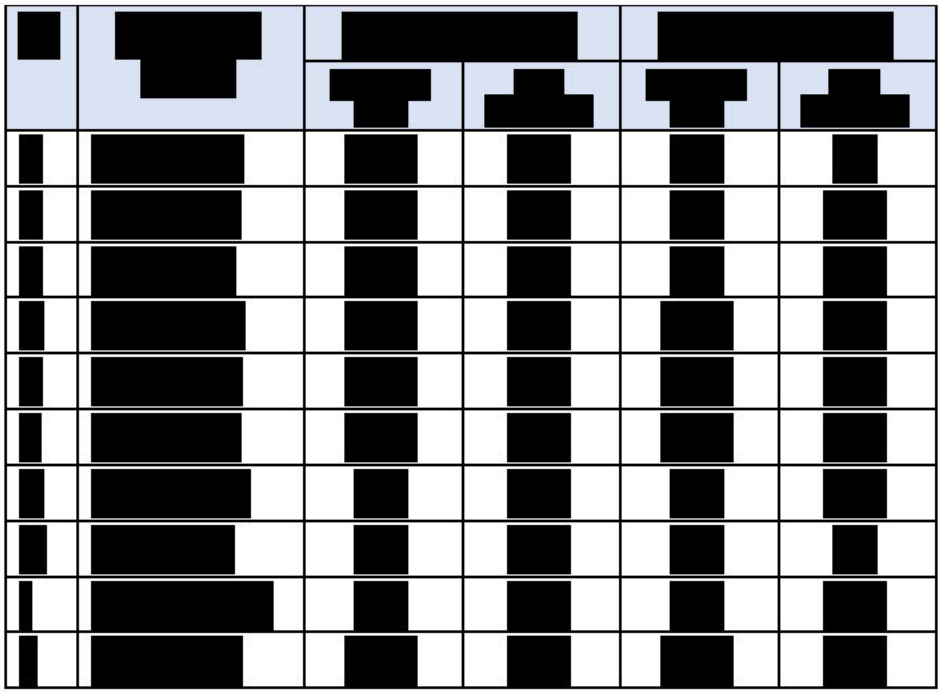


Table 9: Comparing 3/14/2021 [redacted] Code Files With [redacted]

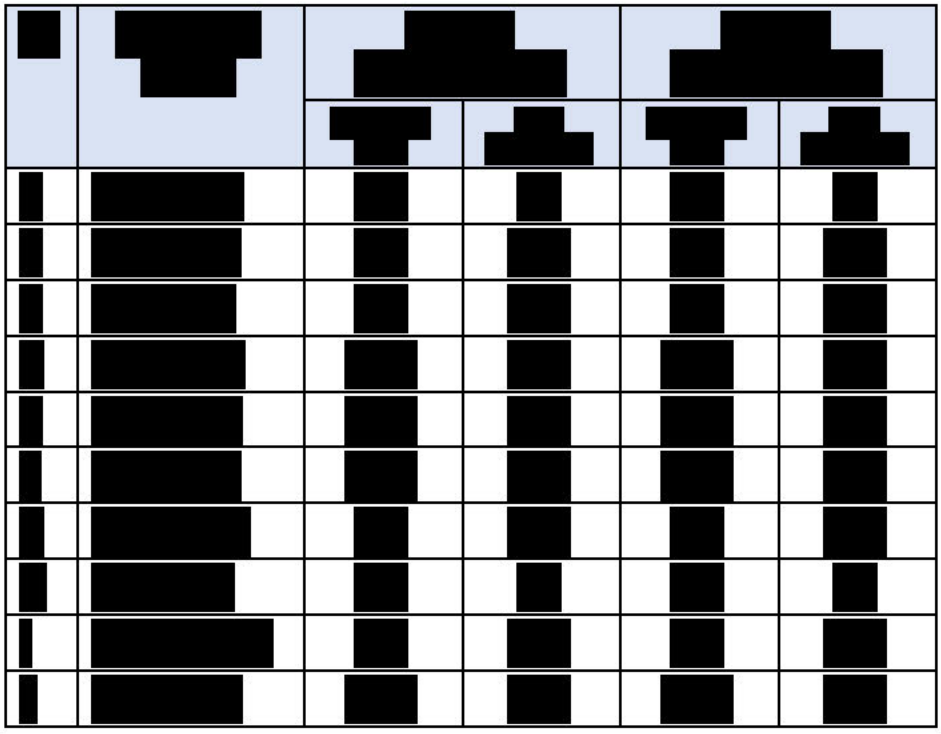


Table 10: Comparing 3/14/2021 [redacted] Code Files With [redacted]

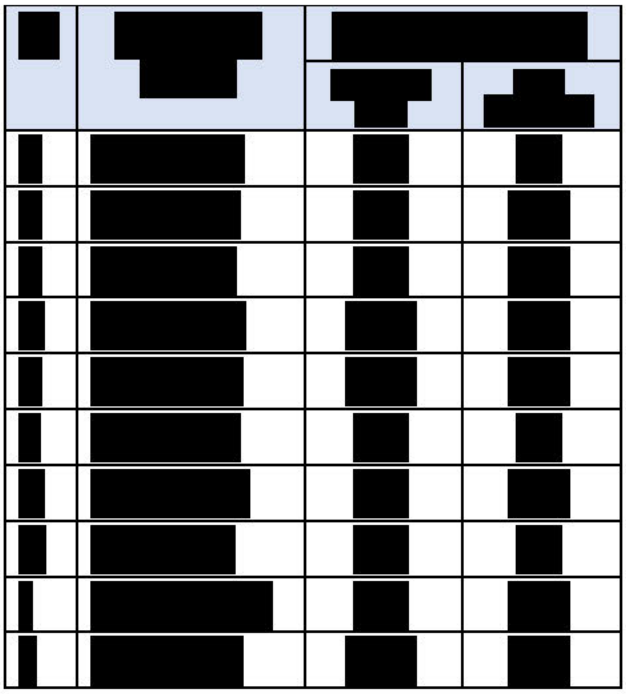


Table 11: Comparing 3/14/2021 [redacted] Code Files With [redacted]

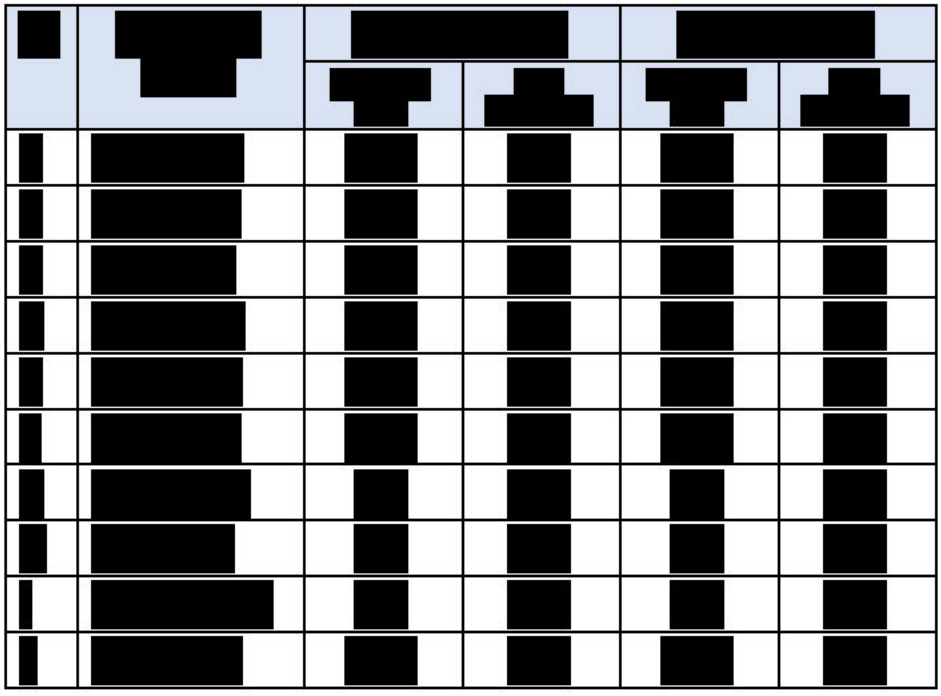
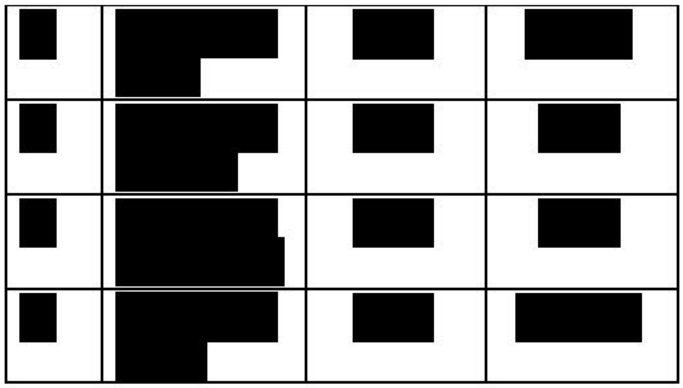


Table 12: Comparing 3/14/2021 [redacted] Code Files With [redacted]

4. Comparing February 28, 2022 [redacted] code with April 1, 2022 [redacted] code

35. I was asked to compare the February 28, 2022 [redacted] code with the April 1, 2022 [redacted] code to determine the differences between these two versions of code. I performed this analysis using the same approach that I used to compare other SOC/core versions (§ V.B.3) except the baseline is now changed to the Feb. 28, 2022 [redacted] code. My conclusion is that the two versions of code are [redacted]

[redacted]



[redacted]

Table 13: Comparing 2/28/2022 [redacted] Code Folders With 4/1/2022 [redacted]

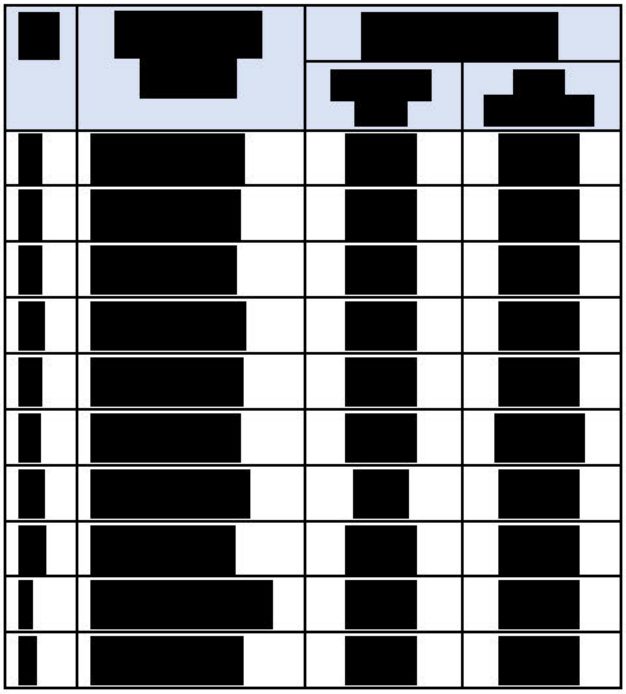


Table 14: Comparing 2/28/2022 [redacted] Code Files With 4/1/2022 [redacted]

C. Qualitative Approach: Arm Features are Throughout RTL Code for All SOCs/Cores.

1. Summary of qualitative approach

36. I performed a qualitative analysis to determine what features from the Arm architecture are present in the March 14, 2021 [redacted] code and are also present in subsequent versions. To perform this analysis, I used the following methodology.

37. First, counsel for Arm identified for me the Arm Architecture Reference Manual v8.7 (G.b) (ARM_01324149) (Arm ARM) and Arm 2020 Architecture Extensions (ARM_00099622). I reviewed those technical documents along with [redacted] (QCARM_2540979) to identify features/instructions that appear to be specific to Arm. I then used a command-line utility, called grep, to search for and identify those specific features/instructions in the March 14, 2021 [redacted] code as a baseline. [redacted] I will provide examples in the following sections.

2. [redacted]

38. [redacted] (QCARM_2540979 at -997) [redacted] An

opcode is string 0s or 1s that uniquely identify an instruction. [redacted]

[redacted]

39. [redacted]

[redacted]

[redacted]

40. [redacted]

[redacted][7][redacted]

3. [redacted]

41. [redacted]

[7] [redacted]

[redacted]

42. [redacted]

43. [redacted][8]

[8] [redacted]

[redacted]

44. [redacted]

45. [redacted]

46. [redacted]

47. [redacted][9] [redacted]

4. [redacted]

48. [redacted]

49. [redacted]

[9] [redacted]

[redacted]

50. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

51. [redacted]

[redacted]

[redacted]

[redacted]

5. [redacted]

52. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

53. [redacted]

VI. CONCLUSION

54. My opinions above are based on available information to date. I reserve the right to supplement or amend my opinions in this report, and also to rebut opinions by Qualcomm's experts with which I disagree. I also reserve the right to correct any clerical errors that I discover after service of this report.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on this 20th day of December of 2023 in Los Angeles, California.

By: _____

Dr. Shuo-Wei (Mike) Chen

Exhibit A

Mike Shuo-Wei Chen

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Curriculum Vitae

EDUCATION

University of California, Berkeley 2002 – 2006
- PhD in Electrical Engineering and Computer Science
- Dissertation: "High-Speed, Low-Power A/D Converter for a Low-Cost UWB Sub-sampling Radio"
- Advisor: Robert W. Brodersen

University of California, Berkeley 2000 – 2002
- Master of Science in Electrical Engineering and Computer Science
- Thesis: "Ultra Wideband Baseband Design and Implementation"

National Taiwan University 1994 – 1998
- Bachelor of Science in Electrical Engineering
- Top 1 student for upper division

ACADEMIC EXPRIENCE

- Professor, Department of Electrical Engineering, University of Southern California, 2021 – Present.
- Associate Professor, Department of Electrical Engineering, University of Southern California, 2017 – 2021.
- Colleen and Roberto Padovani Early Career Chair, USC, 2014 – 2021
- Assistant Professor, Department of Electrical Engineering, University of Southern California, 2011 – 2017.
- Graduate Student Researcher, Berkeley Wireless Research Center, Berkeley, CA, 2001 – 2006.

WORK EXPRIENCE

- Analog Senior Technical Staff, Atheros Communications, Santa Clara, CA, 2006–2010.
  -Designed RF, analog mixed-signal circuits for various wireless products

CONSULTING EXPERIENCE

- Samsung (2018-now): review their research programs ranging from communication and low power electronic systems

- BAE system (2019-2022): data converter design
- Tetramem (2022-now): AI/ML computing circuitry
- Morrison & Foerster LLP (2019-2022): Xilinx-ADI litigation
  Legal consultant, working with counselors to prepare/review legal documents, non-infringement arguments, deposition, source codes, PTAB, etc.

HONORS and AWARDS

- ISSCC 2022 Jack Kilby Award (co-recipient)
- RFIC 2022 Best Student Paper Award – First Place (co-recipient)
- IEEE Solid-State Circuit Society (SSCS) Distinguished Lecturer 2021-2023.
- DARPA Young Faculty Award (YFA), 2014.
- NSF Faculty Early Career Development (CAREER) Award, 2014.
- Analog Devices Outstanding Student Award, 2006
- UC Regents Fellowship, UC Berkeley, 2000
- Lin's Foundation Award for Top 1 engineering college student over the academic year, 1996-1997
- Presidential Awards, National Taiwan University, 1996-1998
- Member of National Mathematics Team of Taiwan, awarded with Honourable Mention in Asian Pacific Mathematics Olympiad, 1994.

KEY TECHNICAL CONTRIBUTIONS

Analog Mixed-Signal and RF circuit architectures/techniques for data converters, clock generation and PA.

- Asynchronous SAR ADC (since 2006)
- Embedded TDC scheme for Digital PLL (since 2010)
- Nonuniform sampling (NUS) ADCs and NU DSP (since 2012)
- Direct spur/pulling cancellation for Digital PLL (since 2014)
- Dual-rate hybrid DAC (since 2014)
- Sub-harmonic switching (SHS) PA (since 2018)
- Time-Approximation Filter (TAF) for Transceiver (since 2019)
- Two-Point DTC Calibration scheme for Multiplying DLL (since 2021)
- Delay-tracking pipelined SAR TDC (since 2022)

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2. S. Su*, Q. Zhang*, and **M. S.-W. Chen**, "A 2GS/s 8.5-Bit Time-Based ADC Using a Segmented Stochastic Flash TDC," in 2023 IEEE Custom Integrated Circuits Conference (CICC), Apr. 2023 (* equal contribution)
3. Q. Zhang, H.-C. Cheng, S. Su, and **M. S.-W. Chen**, "A Fractional-N Digital MDLL with Injection Error Scrambling and Background Third-Order DTC Delay Equalizer Achieving –67dBc Fractional Spur," in IEEE International Solid-State Circuits Conference (ISSCC), Feb. 2023. (To appear)
4. Q. Zhang*, S. Su*, and **M. S.-W. Chen**, "A Cost-Efficient Fully Synthesizable Stochastic Time-to-Digital Converter Design Based on Integral Nonlinearity Scrambling," in 2022 59th ACM/EDAC/IEEE Design Automation Conference (DAC), July 2022. (*contributed equally to this work)
5. C. Yang, S. Su and **Mike Chen**, "A Millimeter-Wave Mixer-First Receiver with Non-Uniform Time-Approximation Filter Achieving >45-dB Blocker Rejection," in IEEE Radio Frequency Integrated Circuits Symposium (RFIC), June 2022. (Best Student Paper Award – First Place)
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7. J. Liu, M. Hassanpourghadi, and **M. S.-W. Chen**, "A 10GS/s 8b 25fJ/c-s 2850um2 Two-Step Time-domain ADC Using Delay-Tracking Pipelined-SAR TDC with 500fs Time Step in 14nm CMOS Technology", *IEEE International Solid-State Circuits Conference (ISSCC)*, Feb. 2022.
8. S. Su, Q. Zhang, M. Hassanpourghadi, J. Liu, R.A. Rasul, and **M. S.-W. Chen**, "Analog/Mixed-Signal Circuit Synthesis Enabled by the Advancements of Circuit Architectures and Machine Learning Algorithms," (invited paper) *Asia and South Pacific Design Automation Conference (ASP-DAC)*, Jan. 2022.
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12. R.A. Rasul, and **M. S.-W. Chen**, "A 128×128 SRAM Macro with Embedded Matrix-Vector Multiplication Exploiting Passive Gain via MOS Capacitor for Machine Learning Application," *IEEE Custom Integrated Circuits Conference (CICC),* Apr. 2021.
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17. C.R. Ho, **M. S.-W. Chen**, "A Digital PLL with Feedforward Multi-Tone Spur Cancelation Loop Achieving <-73dBc Fractional Spur and <-110dBc Reference Spur in 65nm CMOS," (Invited) accepted for *IEEE J. Solid-State Circuits* (JSSC) Dec., 2016.
18. S. Su, **M. S.-W. Chen**, "A 12b 2GS/s Dual-Rate Hybrid DAC with Pulsed Timing-Error Pre-Distortion and In-Band Noise Cancellation Achieving >74dBc SFDR up to 1GHz in 65nm CMOS," (Invited) accepted for *IEEE J. Solid-State Circuits* (JSSC) Dec., 2016.
19. J.W. Nam, **M. S.-W. Chen**, "An Embedded Passive Gain Technique for Asynchronous SAR ADC Achieving >10 ENOB, 1.36 mW at 95MS/s in 65nm CMOS," accepted by IEEE Transactions on Circuits and Systems (TCAS-I) 2016
20. T.F. Wu, S. Dey, **M. S.-W. Chen**, "A Non-Uniform Sampling ADC Architecture with Reconfigurable Digital Anti-aliasing Filter," accepted by IEEE Transactions on Circuits and Systems (TCAS-I) 2016
21. C.R. Ho, **M. S.-W. Chen**, "A Fractional-N DPLL with Calibration-free Multi-phase Injection-locked TDC and Adaptive Single-tone Spur Cancellation Scheme," accepted by IEEE Transactions on Circuits and Systems (TCAS-I) 2016
22. S. Su, T. Tsai, P. Sharma, **M. S.W. Chen**, "A 12-bit 1GS/s Dual-Rate Hybrid DAC with an 8GS/s Unrolled Pipeline Delta-Sigma Modulator Achieving >75dB SFDR over the Nyquist Band," (Invited) *IEEE J. Solid-State Circuits*, April, 2015.
23. Y. Cao, J. Velamala, K. Sutaria, **M. S.W. Chen**, J. Ahlbin, I. Esqueda, M. Bajura, M. Fritze, "Cross-Layer Modeling and Simulation of Circuit Reliability", *IEEE Transactions on CAD of Integrated Circuits and Systems*, Jan. 2014.
24. **M.S.W. Chen**, D. Su, S. Mehta, "A Calibration-Free 800MHz Fractional-N Digital PLL with Embedded TDC," (Invited) *IEEE Journal of Solid-State Circuits*, Dec. 2010.
25. Zargari, M.; Nathawad, L.Y.; Samavati, H.; Mehta, S.S.; Kheirkhahi, A.; Chen, P.; Gong, K.; Vakili-Amini, B.; Hwang, J.A.; **Chen, S.-W.M.**; Terrovitis, M.; Kaczynski, B.J.; Limotyrakis, S.; Mack, M.P.; Gan, H.; MeeLan Lee; Chang, R.T.; Dogan, H.; Abdollahi-Alibeik, S.; Baytekin, B.; Onodera, K.; Mendis, S.; Chang, A.; Rajavi, Y.; Jen, S.H.-M.; Su, D.K.; Wooley, B.A., "A Dual-Band CMOS MIMO Radio SoC for IEEE 802.11n Wireless LAN," *IEEE J. Solid-State Circuits*, Dec. 2008.
26. **M.S.W. Chen**, R. W. Brodersen, "A Subsampling Radio Architecture for Ultrawideband Communications," *IEEE Transactions on Signal Processing*, Oct. 2007.
27. **M.S.W. Chen**, R. W. Brodersen, "A 6-bit 600-MS/s 5.3-mW Asynchronous ADC in 0.13-um CMOS," *IEEE J. Solid-State Circuits*, Dec. 2006.
28. **M.S.W. Chen**, R. W. Brodersen, "A Subsampling UWB Impulse Radio Architecture Utilizing Analytic Signaling," (Invited Paper) *IEICE Trans. on Electronics*, June 2005.
29. D. Cabric, **M. S.-W. Chen**, D. Sobel, S. Wang, J. Yang, and R. W. Brodersen, "Novel Radio Architectures for UWB, 60GHz, and Cognitive Wireless Systems," *EURASIP J. on Wireless Commnucations and Networking*, 2006.

Magazine

1. **M. S.-W. Chen**, "Trend and New Opportunities in Digital PLL Design", (Invited) IEEE Solid State Circuit Magazine, 2020 winter issue.
2. C.R. Ho, **M. S-W. Chen**, "Clock Generation in the future with Digital Signal Processing Technique for Mitigating Spur and Interference," IEEE Microwave Magazine 2019.
3. Sankaran, S.G.; Zargari, M.; Nathawad, L.Y.; Samavati, H.; Mehta, S.S.; Kheirkhahi, A.; Chen, P.; Ke Gong; Vakili-Amini, B.; Hwang, J.; **Chen, S.-W.M.;** Terrovitis, M.; Kaczynski, B.J.; Limotyrakis, S.; Mack, M.P.; Gan, H.; Lee, M.; Chang, R.T.; Dogan, H.; Abdollahi-Alibeik, S.; Baytekin, B.; Onodera, K.; Mendis, S.; Chang, A.; Rajavi, Y.; Jen, S.H.-M.; Su, D.K.; Wooley, B., "Design and implementation of a CMOS 802.11n soc –[integrated circuits for communications]," *Communications Magazine*, April 2009.
4. D. Cabric, I. O'Donnell, **M. S.-W. Chen**, and R.W. Brodersen, "Spectrum Sharing Radios," (Invited) *IEEE Circuits and Systems Magazine*, 2006.

Book Chapter

1. C.R. Ho, **M. S.-W. Chen**, "Fractional-N spur reduction techniques for DPLL," *Phase-Locked Frequency Generation and Clocking: Architectures and Circuits for Modern Wireless and Wireline Systems*, IET 2019 (under preparation).
2. **M. S.-W. Chen**, "Challenges and Emerging Trend of DSP Enabled Frequency Synthesizer," Digitally-Assisted Analog *and Analog-Assisted Digital IC Design*. Chapter4, 2015, Cambridge University Press.
3. **M. S.-W. Chen**, "Energy-Efficient ADC Topology Enabled with Asynchronous Techniques," *Circuits for Nanoscale: Communications, Imaging, and Sensing.* Chapter14, Sep. 2008.

Patent

1. **M.S.W. Chen**, C.R. Ho, "Adaptive spur cancellation techniques and multi-phase injection locked TDC for digital phase locked loop circuit," US patent #9941891, 2018.
2. **M. S.W. Chen**, "Non-uniform Sampling Analog to Digital Converter (ADC) Architecture with Digital Reconfigurable Anti-Aliasing Filter," filed for provisional patent application, No. 61/911,261, Dec., 2013.
3. **M. S.W. Chen**, D. Su, "Fractional and Integer PLL Architectures," US patent #8289086, 2012.

INVITED TALKS/TUTORIALS/WORKSHOPS

1. ITRI, Taiwan, "New Opportunities in Mixed-Signal ICs", June, 2011.
2. UMC, Taiwan, "New Opportunities in Mixed-Signal ICs", June, 2011.
3. HRL Laboratories, LLC: "Enhancing A-to-D Conversion Efficiency". July 2nd, 2012

4. "Analog-to-Digital Interface: A Time Approach" 2013 CMOS Emerging Technologies Research Symposium, Whistler, July 2013.
5. "Path towards High-Speed High-Resolution Data Converters with Diminishing Cost", Sep. 2013, Broadcom.
6. "Analog-Digital Interface Research, really?" Sep. 2013, Qualcomm-Atheros.
7. "Re-shape Future Mixed-Signal IC Design" Oct. 2013. Qualcomm.
8. "Path towards High-Speed High-Resolution Data Converters with Diminishing Cost", Nov. 2013, UT Dallas.
9. "Path towards High-Speed High-Resolution Data Converters with Diminishing Cost", Nov. 2013, Texas Instrument.
10. "Power efficient ADC Topologies towards RF Sampling" 2014 RFIC Tutorial.
11. "Path Towards Direct RF Synthesis: A Hybrid Digital-to-Analog Converter Architecture" 2014 IEEE MWSCAS Conference, Distinguished Speaker Series.
12. "Asynchronous SAR ADC: Past, Present and Beyond" 2014 IEEE MWSCAS Conference Tutorial
13. "Exploring Limits of Mixed-Signal ICs" Sep. 2014, MaxLinear Corp.
14. "Rethinking Analog-Digital Interface Circuit Architectures" Oct. 2014, IC Seminar, Columbia University, NY.
15. "Rethinking Analog-Digital Interface Circuit Architectures" Mar. 2015, IC Seminar, UC Berkeley, CA.
16. "Rethinking Analog-Digital Interface Circuit Architectures" Dec. 2015, IC Seminar, National Taiwan University(NTU)/IEEE Chapter, Taipei, Taiwan.
17. "Rethinking Analog-Digital Interface Circuit Architectures" Feb. 2016, IC Seminar, UT Austin, Texas.
18. "Asynchronous SAR ADC: Past, Present and Beyond", Feb. 2016, EE department Colloquium, UT Austin/IEEE Chapter.
19. "Rethinking Analog-Digital Interface Circuit Architectures" Feb. 2016, IC Seminar, University of Michigan, Ann Arbor.
20. "Rethinking Analog-Digital Boundary from Circuit to System Level towards Reconfigurability of Everything" Mar. 2016, SystemX Seminar, Stanford
21. "Rethinking Analog-Digital Interface Circuit Architectures" April. 2016, EE department Colloquium. Carnegie Mellon University (CMU).
22. "Rethinking Analog-Digital Interface Circuit Architectures" April. 2016, IC Seminar, University of California, Los Angeles (UCLA).
23. "IC Research overview," TSMC, 2017
24. "IC Research overview," Intel Lab, 2017
25. "IC Research overview," InPhi, 2017
26. "Advancing Low-Power High-Speed Analog-to-Digital Converters: An Asynchronous Design Approach", VLSI DAT tutorial, 2017
27. "Generic spur cancellation for digital PLL," Qualcomm 2017
28. "Evolutions of SAR ADC: from High Resolution to High Speed Regime," IEEE CICC 2018 tutorial.
29. "Emerging Opportunities in Analog Mixed-Signal Circuit Design Automation," ACM/IEEE ICCAD 2018 workshop.
30. "Analog-to-Digital Converter Architecture Opportunities in Emerging Wireless Systems," RFIC 2018 workshop

31. "How can hardware designers reclaim the spotlight?" moderator/co-organizer of ISSCC 2019 evening panel.
32. "Fundamentals of Analog-to-digital conversion," 2-day tutorial in Shanghai, China 2019.
33. "Digital Fractional-N Phase Locked Loop Design," tutorial, ISSCC Feb 2020
34. "Digital Fractional-N Phase Locked Loop Design," ISSCCedu Feb 2020
35. "Low Spur PLL architectures," MEAD tutorial in EPFL, 2021 (to appear)
36. "Low Spur PLL architectures and techniques, " IEEE CICC 2020
37. "New Opportunities in Nonuniform Sampling," IEEE SSCS Webinar Oct 2020.
38. "High-Performance Digital-to-Analog Converter Design: A Path towards Digital Transmitter," ISESD Keynote June 2021
39. "ADC Evolution via Architectural Rethinking: from Asynchronous SAR to Non-uniform Sampling ADC," IEEE SSCS Tainan Chapter, Oct 2021
40. "High-Performance Digital-to-Analog Converter Design: A Path towards Digital Transmitter," IEEE SSCS Atlanta Chapter, Nov. 2021
41. "Asynchronous SAR ADC: Past, Present and Beyond," IEEE Southern Alberta Chapter, Nov. 2021
42. "Non-Uniform Sampling Data Converters: A Journey to Uncharted Circuits and Systems" IEEE VLSI-DAT April 2022
43. "Asynchronous SAR ADC: Past, Present and Beyond," IEEE Swiss Chapter, May 2022
44. "New Opportunities in Nonuniform Sampling," IEEE Penang Chapter, July 2022
45. "Trend in Digital PLL Design and New Opportunities in Spur Cancellation," IEEE Southern Alberta Chapter, Sep. 2022
46. "High-Performance Digital-to-Analog Converter Design: A Path towards Digital Transmitter," IEEE Egypt Chapter Nov. 2022
47. "New Opportunities in Nonuniform Sampling," IEEE Taipei Chapter, Dec. 2022
48. "Trend in Digital PLL Design and New Opportunities in Spur Cancellation," IEEE Tainan Chapter, Dec. 2022

PROFESSIONAL SERVICES

Review Panel:

1. IEEE SSCS James D. Meindl Innovators Award
2. NSF Panelist
3. Samsung Research

Journal article review:

1. IEEE Journal of Solid-State Circuits
2. IEEE Solid-State Circuits Letters (SSC-L)
3. IEEE Transactions on Signal Processing
4. IEEE Transactions on Communications
5. IEEE Transactions on Circuits and Systems I
6. IEEE Transactions on Circuits and Systems II
7. IEEE Transactions on Vehicular Technology
8. IEEE Communications Letters

9. Journal of VLSI Signal Processing Systems

USC Department Services:

1. Munishian Series Committee
2. EFC
3. EE Festival reviewer

Conference TPC:

IEEE European Conference on Solid-State Circuits (ESSCIRC) (2022- present)
IEEE International Solid State Circuits Conference (ISSCC) (2018 - present)
IEEE Symposium on VLSI Circuits (VLSIC) (2017 - 2020)
IEEE Custom Integrated Circuits Conference (CICC) (2015 - 2019)
IEEE GlobalSIP (2014)

Organized/Participated Panel/Forum/Workshops for SSCS:

1. Forum: "Emerging Design Techniques for Data Converters" served as organizer at CICC 2017
2. Panel: "What can/should Circuit Designers do to Ride on the Wave of Machine Learning?" served as co-organizer and moderator at CICC 2018
3. Panel: "How can hardware designers reclaim the spotlight?" served as co-organizer and moderator at ISSCC 2019
4. Panel: "Favorite circuit design and testing mistakes of starting engineers?" served as co-organizer at ISSCC 2021
5. VLSI Symposia Mentoring Event June 2021
6. Panel: "How to choose career path, academia, industry, startups?" served as panelist at CICC 2022 (to appear)
7. Panel: "Open Source Systems, Circuits, and Design: Is It the Future?" served as panelist at CICC 2022 (to appear)

Associate Editor:

SSC-L, TCAS-II

Society Membership:

Senior Member of IEEE

CURRENT, PRIOR, AND PENDING RESEARCH GRANTS

Current Research Grants

Proposal Title: SpecEES: Switched-Capacitor Radiofrequency Signal Processing for Spectrally-Agile Low-Energy Wireless Transceivers
Source of Support: NSF: ECCS-1824442
Project Location: USC PI: Hossein Hashemi, Co-PI: Mike Chen
Total Award Amount: $675,000 (Chen's share: $313,991)
Starting Date: 09/01/2018 Ending Date: 08/31/2023

Proposal Title: Bio-inspired hybrid computing platform for micro-unmanned vehicles
Source of Support: IARPA: 2021-21090200005
Project Location: USC PI: Wei Wu, Co-PIs: Mike Chen, Quan Nguyen
Total Award Amount: $3,000,000 (Chen's share: $1,100,000)
Starting Date: 09/27/2021 Ending Date: 10/26/2023

Proposal Title: High-Speed Multi-GS/s Time-based ADC
Source of Support: MediaTek Inc.
Project Location: USC PI: Mike Chen
Total Award Amount: $160,000
Starting Date: 01/01/2022 Ending Date: 01/01/2024

Proposal Title: Center for Ubiquitous Connectivity (CUbiC)
Source of Support: Columbia University (Prime: SRC): 2023-JU-3132
Project Location: USC PI: Mike Chen
Total Award Amount: $1,250,000
Starting Date: 01/01/2023 Ending Date: 12/31/2027

Proposal Title: High-Speed DAC with High Output Power and Linearity
Source of Support: University of Texas at Dallas (Prime: SRC): 2023-AM-3160
Project Location: USC PI: Mike Chen
Total Award Amount: $270,000
Starting Date: 01/01/2023 Ending Date: 12/31/2025

Proposal Title: Machine-Learning Based Analog Mixed-signal Design Tool
Source of Support: University of Texas at Dallas (Prime: SRC): 2023-AM-3160
Project Location: USC PI: Mike Chen, Co-PIs: Sandeep Gupta, Anthony Levi
Total Award Amount: $285,000 (Chen's share: $259,568)
Starting Date: 01/01/2023 Ending Date: 12/31/2025

Proposal Title: Design Automation of Low Phase Noise PLL
Source of Support: University of Texas at Dallas (Prime: SRC): 2023-AM-3160
Project Location: USC PI: Mike Chen, Co-PIs: Sandeep Gupta, Anthony Levi
Total Award Amount: $270,000 (Chen's share: $244,568)
Starting Date: 01/01/2023 Ending Date: 12/31/2025

Prior Research Grants

Proposal Title: Techniques Estimating Reliability in COTS ICs (Phase 1)
Source of Support: DARPA: HR0011-11-C-0067 CLIN0001
Project Location: USC PI: Michael Fritze, Co-PI: Mike Chen
Total Award Amount: $2,428,225 (Chen's share: $299,153)

Starting Date: 07/21/2011 Ending Date: 03/07/2013

Proposal Title: Techniques Estimating Reliability in COTS ICs (Phase 2)
Source of Support: DARPA: HR0011-11-C-0067 CLIN0002
Project Location: USC PI: Michael Fritze, Co-PI: Mike Chen
Total Award Amount: $1,787,093 (Chen's share: $47,783)
Starting Date: 02/20/2013 Ending Date: 09/20/2014

Proposal Title: Silicon-Based Monolithic Digital RF Memory
Source of Support: ONR: N00014-11-1-0819
Project Location: USC PI: Hossein Hashemi, Co-PI: Mike Chen
Total Award Amount: $1,200,000 (Chen's share: $600,000)
Starting Date: 08/01/2011 Ending Date: 09/30/2015

Proposal Title: Multi-Tier Reconfigurable Transceivers for Hand-Portable Radio and Micro Base Stations
Source of Support: DARPA: HR0011-12-C-0094
Project Location: USC PI: Hossein Hashemi, Co-PI: Mike Chen
Total Award Amount: $3,257,252 (Chen's share: $400,000)
Starting Date: 08/20/2012 Ending Date: 07/15/2017

Proposal Title: Computational Leverage Against Surveillance Systems (CLASS)
Source of Support: Itt Exelis (Prime: DARPA): 473685J
Project Location: USC PI: Mike Chen
Total Award Amount: $287,125
Starting Date: 06/12/2013 Ending Date: 12/22/2014

Proposal Title: Design of Integrated Circuit for Intravascular Radial Arrays
Source of Support: Texas Instruments Inc.
Project Location: PI: K. Kirk Shung, Co-PI: Mike Chen
Total Award Amount: $150,000 (Chen's share: $29,332)
Starting Date: 02/01/2014 Ending Date: 01/31/2015

Proposal Title: Dual-Channel UWB Impulse-Based Interconnect Towards Large-Scale Plastic Neural Network
Source of Support: DARPA YFA (SPANAVWAR): N66001-14-1-4049
Project Location: USC PI: Mike Chen
Total Award Amount: $500,000
Starting Date: 09/04/2014 Ending Date: 09/03/2017

Proposal Title: Computational Leverage Against Surveillance Systems (CLASS) Phase 2

Source of Support: NexGen (Prime: DARPA): 004897-00001
Project Location: USC PI: Mike Chen
Total Award Amount: $450,000
Starting Date: 10/01/2014 Ending Date: 03/31/2016

Proposal Title: R2 Transceiver Integration
Source of Support: Google: R2-USC-01
Project Location: USC PI: Mike Chen
Total Award Amount: $800,000
Starting Date: 04/23/2015 Ending Date: 03/31/2016

Proposal Title: R2 2.0 Transceiver Integration - 2016 (Statement of Work #R2-USC-02)
Source of Support: Google: 349783
Project Location: USC PI: Mike Chen
Total Award Amount: $600,000
Starting Date: 04/01/2016 Ending Date: 12/31/2016

Proposal Title: Wideband High-Dynamic Arbitrary Signal Generator for Electronic Warfare Integrated Systems Research
Source of Support: ONR (DURIP): N00014-15-1-2817
Project Location: USC PI: Hossein Hashemi, Co-PI: Mike Chen
Total Award Amount: $189,500
Starting Date: 09/29/2015 Ending Date: 09/27/2017

Proposal Title: Calibration and Characterization of High-Speed Data Converter and Clock Generator
Source of Support: ONR: N00014-15-1-2864
Project Location: USC PI: Hossein Hashemi, Co-PI: Mike Chen
Total Award Amount: $150,000 (Chen's share: $100,383)
Starting Date: 09/30/2015 Ending Date: 06/30/2016

Proposal Title: Support for April 2017 Connectivity CDF
Source of Support: Airbus: SWLA00034
Project Location: USC PI: Mike Chen
Total Award Amount: $20,000
Starting Date: 04/26/2017 Ending Date: 05/31/2017

Proposal Title: CAREER: Asynchronous Analog-to-Digital Converters with Non-Uniform Discrete-Time Signal Processing
Source of Support: NSF: ECCS-1351956
Project Location: USC PI: Mike Chen
Total Award Amount: $400,000

Starting Date: 02/15/2014 Ending Date: 01/31/2020

Proposal Title: EARS: Enabling Opportunistic Environmental Monitoring with Non-Uniform Sampling and Processing Circuits
Source of Support: NSF: ECCS-1643004
Project Location: USC PI: Mike Chen, Co-PIs: Mahta Moghaddam, Keith Chugg
Total Award Amount: $899,998 (Chen's share: $300,000)
Starting Date: 10/01/2016 Ending Date: 09/30/2021

Proposal Title: Automated Analog Mixed-Signals (AMS) Intellectual Property Generator for Complementary Metal Oxide Semiconductor (CMOS) Technologies
Source of Support: DARPA (account managed by AFRL): FA8650-18-2-7853
Project Location: USC PI: Anthony Levi, Co-PIs: Mike Chen, Sandeep Gupta, Wes Hanford
Total Award Amount: $6,028,731 (Chen's share: $ $1,930,468)
Starting Date: 06/25/2018 Ending Date: 12/30/2022

Proposal Title: Discrete-time mm-wave Processors for Scalable Digital Arrays
Source of Support: DARPA (account managed by AFRL): FA8650-19-1-7996
Project Location: USC PI: Hossein Hashemi, Co-PI: Mike Chen
Total Award Amount: $1,200,000 (Chen's share: $600,000)
Starting Date: 10/09/2018 Ending Date: 01/10/2023

Pending Research Grants

Proposal Title: CMOS Integrated Warm Electronics for Large Format Far Infrared Detectors
Source of Support: Jet Propulsion Laboratory (Prime: NASA)
Project Location: USC PI: Mike Chen
Total Award Amount: $393,294
Starting Date: 10/01/2023 Ending Date: 09/30/2026

Proposal Title: SHF: Medium: Transistors to Algorithm Hardware Acceleration of Boolean Satisfiability (SAT) and NP Complete Problems
Source of Support: NSF
Project Location: USC PI: Sandeep Gupta, Co-PIs: Pierluigi Nuzzo, Mike Chen, Tony Levi
Total Award Amount: $1,199,994 (Chen's share: $259,544)
Starting Date: 10/01/2023 Ending Date: 09/30/2026

Proposal Title: ACED Fab: 3D memristor/CMOS Hybrid Field-programmable Analog Arrays for Signal Processing from RF to Baseband
Source of Support: NSF
Project Location: USC PI: Mike Chen, Co-PIs: Joshua Yang, Qiangfei Xia

Total Award Amount: $600,000 (Chen's share: $420,000)
Starting Date: 07/01/2023 Ending Date: 06/30/2026

Proposal Title: EFRI BRAID: Efficient learning in strongly-biased memristor-based neural architectures
Source of Support: NSF
Project Location: USC PI: Bartlett Mel, Co-PIs: Joshua Yang, Mike Chen, Greg Ver Steeg
Total Award Amount: $1,996,702 (Chen's share: $94,202)
Starting Date: 08/16/2023 Ending Date: 08/15/2027

Exhibit B
List of Materials Considered

All documents cited within this report.
Qualcomm Source Code computer.

Source Code

All source code print requests submitted by Dr. Chen, including:

- QSC1ARMVQC0000001 – QSC1ARMVQC0000021
- QSC1ARMVQC0000022 – QSC1ARMVQC0000064
- QSC1ARMVQC0000065 – QSC1ARMVQC0000145
- QSC1ARMVQC0000146 – QSC1ARMVQC0000188
- QSC1ARMVQC0000189 – QSC1ARMVQC0000259
- Any print outs requested by Chen and not yet provided by Qualcomm at the time of signing this report.

Correspondences

- Correspondence dated 09/12/2023, email from J. Braly to F. Patel

Pleadings

- Arm Ltd. v. Qualcomm Inc. et al., No. 1-22-cv-001146 MN (D. Del.):
  ECF No. 1, Complaint, dated August 31, 2022.

Discovery

- Defendants' Response and Objections to Plaintiff's First Set of Interrogatories (Nos. 1-13), dated February 27, 2023.
- Plaintiff's Third Set of Requests for Production to Defendants (Nos. 59-122), dated July 19, 2023.

Deposition Transcripts

Singh Deposition Transcript dated September 22, 2023.
Gulati Deposition Transcript dated October 12, 2023.
Chunduru Deposition Transcript dated October 20, 2023.
Herbert Deposition Transcript dated October 25, 2023.
Trivedi Deposition Transcript dated October 25, 2023.
Abbey Deposition Transcript dated October 27, 2023.
Sharma Deposition Transcript dated October 27, 2023.
Couillard Deposition Transcript dated November 2, 2023.
Williams Deposition Transcript dated November 3, 2023.
Asghar Deposition Transcript dated November 8, 2023.

Williamson Deposition Transcript dated November 9, 2023.
Amon Deposition Transcript dated November 15, 2023.
Grisenthwaite Deposition Transcript dated November 15, 2023.
Segars Deposition Transcript dated November 16, 2023.
Roberts Deposition Transcript dated November 28, 2023.
Thompson Deposition Transcript dated November 28, 2023.
Bos Deposition Transcript dated November 29, 2023.
Shivashankar Deposition Transcript dated November 30, 2023.
Kanapathipillai Deposition Transcript dated December 1, 2023.
Werkheiser Deposition Transcript dated December 7, 2023.
Armstrong Deposition Transcript dated December 8, 2023.
Balakrishnan Deposition Transcript dated December 8, 2023
Haas Deposition Transcript dated December 12, 2023.
Sands Deposition Transcript dated December 14, 2023.

Websites

- Stephen Nellis, *Former Apple chip executives found company to take on Intel, AMD*, REUTERS, https://www.reuters.com/article/us-nuvia-tech-idUSKBN1XP19V/?taid=5dcefd5c1dd1a30001b949f0&utm_campaign=trueAnthem%3A+Trending+Content&utm_medium=trueAnthem&utm_source=twitter (last visited December 18, 2023).
- QUALCOMM, Press Release: Qualcomm to Acquire NUVIA (Jan. 21, 2021), https://www.qualcomm.com/news/releases/2021/01/qualcomm-acquire-nuvia (last visited December 18, 2023).
- QUALCOMM, Press Note: Qualcomm Completes Acquisition of NUVIA (Mar. 15, 2021), https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia (last visited December 18, 2023).

Produced Documents

ARM_00099622 (NUVIA248705)	ARM_01324149	QCARM_0000864	QCARM_0169739
QCARM_0170271	QCARM_0181939	QCARM_0181947	QCARM_0181949
QCARM_0325086	QCARM_0325371	QCARM_0332617	QCARM_0359951
QCARM_0490031	QCARM_0490329	QCARM_2396579	QCARM_2402257
QCARM_2402586	QCARM_2412688	QCARM_2414840	QCARM_2540979
QCARM_2551809	QCARM_3041647	QCARM_3087396	QCARM_3087757
QCARM_3087992	QCARM_3088245	QCARM_3088553	QCARM_3088937
QCARM_3089361			

EXHIBIT 24

EXHIBIT 25

H I G H L Y C O N F I D E N T I A L

ATTORNEYS' EYES ONLY

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

C.A. NO: 22-1146 (MN)

ARM LTD., a UK Corporation,

Plaintiff,

v.

QUALCOMM INC., a Delaware corporation, QUALCOMM TECHNOLOGIES, INC., a Delaware Corporation, and NUVIA, INC., a Delaware Corporation,

Defendants.

Deposition of RICHARD GRISENTHWAITE, taken by AILSA WILLIAMS, Certified Court Reporter, held at the offices of Norton Rose Fulbright, London, United Kingdom, on 15 November, 2023 at 9:00 a.m

A P P E A R A N C E S:

Attorneys for the Plaintiff:
MORRISON & FOERSTER LLP
BY: ERIK OLSON
Ejolson@mofo.com

For the Defendants:
PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP
BY: CATHERINE NYARADY and JACOB BRALY
Cnyarady@paulweiss.com
Jbraly@paulweiss.com

ALSO PRESENT:
ROB CALICO: (ARM)
COURT REPORTER: AILSA WILLIAMS
VIDEOGRAPHER: WENDY VINER

I N D E X

RICHARD GRISENTHWAITE (Sworn)
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Examination by MR. OLSON: Pg. 224
Further Examination by MS. NYARADY: Pg. 226
Further Examination by MR. Pg. 227

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THE VIDEOGRAPHER: Good morning. We are on the record at 9:05 a.m. on November 15, 2023.

This is media unit number one of the video recorded deposition of Richard Grisenthwaite, in the matter of ARM Limited versus Qualcomm Inc et al in the United States District Court for the District of Delaware, case number CA 22-1146.

This deposition is being held at Norton Rose Fulbright LLP located at More London Riverside, London SE1 UK.

My name is Wendy Viner from the firm Veritext and I am the videographer. The court reporter today is Ailsa Williams from Veritext.

Would the court reporter please swear in the witness and we can proceed.

RICHARD GRISENTHWAITE
Having been sworn,
Testified as follows:

DIRECT EXAMINATION BY MS. NYARADY:

MS. NYARADY: My name is Catherine Nyarady, here to represent Defendants.

MR. OLSON: Erik Olson, Morrison & Foerster, representing ARM and representing the witness.

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something that we deem to be unimportant.
Q So it is possible for a product to get to market or be deemed compliant while still having certain technical fails on it from the ACK, but that ARM has said, you know, "it is okay to proceed despite those fails"?
MR. OLSON: Object to form.
A Only when ARM has reviewed that thoroughly and we understand that the risk of this being a problem for the ecosystem is negligible.
Q Who approves waivers?
A Me.
Q So assuming you get past the test, whether that is because there is no failures or the failures have been dealt with or waived, right, what happens next?
A The process -- having been shown a consolidated report of the tests, potentially, because there are thousands -- I get a consolidation of this into so many have been run, so many have been waived and so on, or so many are candidates to be waived, and I would then have agreed them. This will be a simple email from my validation team in Bangalore. We will give what we call a green signal to say we are going to pass

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this test, pass the compliance and authorize it. It then takes a matter of a few weeks, maybe a couple of months in some cases, to complete all the paperwork with a proper record of exactly which tests were run, so there is a proper Word document that provides a proper written record of it, because pulling that together and getting it absolutely as correct as we can takes time. We kind of have this two stage "it is going to be okay and we will give the paperwork later" approach.
Q So the green signal -- I have also seen references to "green light"?
A Same thing.
Q The green signal or green light, that is a way for ARM to communicate back to the licensee that essentially the implementation has passed and is compliant?
A Correct.
Q And then there is a process by which the paperwork is done that details that compliance?
A Correct.
Q In terms of what ARM receives from the licensee, is that just the report, if you

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will, that has the pass and the fails?
A Correct.
Q So if there is a failure you don't get, for example, any of the RTL that may be underlying whatever part failed, right?
A We do not get the RTL.
Q Have you heard the term OS boot log?
A Yes.
Q What is that?
A OS is an operating system. In addition to the ACK tests, we also [redacted]
Q Is that something that you require licensees to provide to ARM?
A We provide -- yes, we do.
Q Is that technically provided under the ACK process?
A It is not the ACK. As part of the broader validation process is we ask "Pass the ACK

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and provide us essentially evidence that this thing will boot a standard operating system". [redacted]
Q So is that one of the tests that is provided under the ACK?
A No. I said the ACK is a kit of things, including the suite, the suite of the tests. [redacted]
Q So then is the [redacted] run by the licensee and then is a report provided back to ARM?

A Correct.
Q What is the name of the report that is provided back?
A I actually couldn't tell you. It is a level of detail that I have never had to go into. It is probably [redacted] or something like that, but I have no idea.
Q Would that also go back to the team in Bangalore?
A Yes.
Q Once this process is complete and the core is deemed to be ARM architecture compliant, what does that mean?
A Literally, it means just that it has gone through that process correctly. That is literally all it means, yes.
Q Do you think it has a broader meaning or any other meaning commercially?
MR. OLSON: Object to form.
A The contract requires that it reach that state, and at that point that allows it to be called an ARM-compliant core, and that then allows you to -- and because the license is only for ARM-compliant cores, it is a status effectively.
Q It is possible to have an

ARM-compliant core absent that final report from ARM that we were discussing, correct?
A This is where I would probably want to refer to the contract, because it is down to the minutiae of exactly what does it take, in terms of the exact details of the compliance process. Practically, we expect that kind of report to be the closure to say this is done, but without trawling through the details of the validation section in the contract, I wouldn't want to be definitive on that.
Q So it just depends on the details in the contract?
A Yes.
Q Do you want to it take a quick break?
A I could do with some more water, if nothing else.
Q Why don't we take ten minutes.
THE VIDEOGRAPHER: Going off the record. The time is 11:52.
(A short break)
THE VIDEOGRAPHER: We are back on the record. The time is 12:05.
MS. NYARADY: We have talked about the

ARM ARM, the ARM reference manual. I have also seen reference to ARM specs or ARM specifications. Are those in the ARM ARM or is that meant to refer to something separate?
A The term "ARM specifications" is the ARM ARM plus documents, engineering documents, engineering specifications that are being developed and are not yet in the ARM ARM, so future stuff.
Q I see. So it is future parts of the ARM ARM that are not yet public?
A That are not yet in the ARM ARM.
Q That are not yet in the ARM ARM, okay. At what stage do they get into the ARM ARM and how is that different than when certain versions of the ARM ARM become public?
MR. OLSON: Object to form.
A The specifications -- there is a life cycle for developing a specification. When it has reached a particular stage in that, which we call the ALC, that is then incorporated into the architecture. It then takes some time to actually insert that material into the ARM ARM document as a 12,000 page book, takes time to work out where to put each individual place and to do

that maintenance. There is no particular status that comes from it actually being incorporated into the ARM ARM, other than that is the vehicle in which we make it public, we make it publicly accessible, so software people can see it, but the features are in the architecture.
Q Does EAC stand for anything in particular?
A Early access.
Q Are there set periodic publication times for the ARM ARM to go public or is it just whenever the next iteration is ready?
A We aspire to releasing it every six month, but practically that has not always been met.
Q In your prior answer you talked about putting the ARM ARM online so that software developers have access. Is that one of the main or is it the main reason why the ARM ARM was published?
MR. OLSON: Object to form.
A Correct.
Q And why is that important to ARM?
A In order to be able to run software on the processor, software engineers need to

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understand how to program it, and the ARM ARM fundamentally tells them how to do that.
Q Does the software that is developed using the ARM ARM or to work with the ARM ARM architecture or -- strike that.
The software that is developed to work with the ARM architecture, does that embody the ARM reference manual?
MR. OLSON: Objection, form.
A I don't really know what you mean by "embody".
Q You used the term earlier when we were talking about cores embodying the ARM ARM. So I am asking whether the software that is developed by developers using the ARM ARM, is that an embodiment of the ARM ARM?
A Not in the way that I would use the term.
Q Why not?
A The ARM ARM is written as the description of the behavior of an abstract machine to which implementations must be compliant, must do the same as that abstract machine. Software is something that runs on that abstract machine so it doesn't embody it, and implementation is in my

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language an embodiment of that abstract machine.
Q The ARM ARM deals only with architecture, right, not micro architecture?
A Correct.
Q And I think I asked this previously so excuse me, but the ISA is part of the ARM ARM, right?
A Correct.
Q I have seen reference to something called the A profile, the R profile and the M profile architecture. I want to ask you about that. What is the A profile architecture?
A The A profile architecture is a form of the architecture or is an architecture targeting typical applications use, that is rich operating systems such as you would find in a phone, a PC, or a server.
Q What is the R profile?
A The R profile is a form of the ARM architecture that is designed for more limited real-time use, as might be found in something like the chassis control of a car or controlling the head of a hard disk drive.
Q And what is the M profile?
A The M profile is microcontroller

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profile, which is an architecture targeting typically deeply embedded microcontroller type applications.
Q So under an ALA would a licensee take a license to individual types of the architecture, the A, the R, the M?
MR. OLSON: Object to form.
A That is usually the case.
Q And not necessarily all of them, right?
A Right.
Q We have seen references to something called the ARM V8-A profile. Are you familiar with that phrase?
A Yes.
Q What is the ARM V8-A profile?
A The A architecture A profile we have talked about already. V8 is version 8 of the architecture.
Q So if that is licensed what does that mean. What is provided?
MR. OLSON: Object to form.
A That is a license to version 8 of the A profile of the ARM architecture, with therefore the right, the license to be able to

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build the architecture, and the license includes the ARM Technology that is defined in the License Agreement.
Q So the ARM V8-A profile, the architecture would be captured in the ARM ARM, is that right?
A Correct.
Q And when you say ARM V8, would that include all iterations of 8?
MR. OLSON: Object to form.
A The license for V8 includes subsequent iterations, 8.1, 8.2 and so on, yes.
Q Would the ARM V8-A profile include anything other than the ARM ARM?
MR. OLSON: Object to form.
Q For example, it doesn't include the ACK, does it?
A The license -- I have lost track of the "its" in that. Could you ask the question again, sorry.
Q Of course. Does the ARM V8-A profile include the ACK?
A No.
Q Is there anything that is included in that ARM V8-A profile other than the ARM ARM?

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Confidential Information, in the sense of this contract, capital "C" capital "I". It may well be that we have a situation where capital "C" capital "I" means something different from little "c" and little "i".

MR. OLSON: For the transcript, can it be little "c" and little "i" rather than -- it is not meant to be "(c)" in parentheses but rather not capital.

Q So I am handing to you what has been marked as QX79. This is an annex to the Nuvia ALA dated 27 September 2019 and it is Bates numbered QCARM 339310 through 25.

(Exhibit QX79 marked for identification)

I am also going to hand you what has been marked as QX80, which is a second Annex 1 to the Nuvia ALA, dated March 27, 2020. It is Bates number QCARM315570 through 83.

First let me ask you, there is [redacted], two different dates. Do you know whether one or both of these are controlling annexes?

A That is not an area I have any knowledge of whatsoever.

(Exhibit QX80 marked for identification)

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Q Why don't we start with the [redacted] one. Let's start with the first page of the [redacted] Do you see the text that is below the box there on the first page, and it says:

[redacted]

Do you see that?

A Yes.

Q If you turn to page 5 of 14 of the document, Bates number ending 574, do you see at [redacted]

A Yes.

Q And it says:

[redacted]

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[redacted] Do you see that?

A Yes.

[redacted]

MR. OLSON: Object to form.

[redacted]

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[redacted]

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[redacted]

Do you see that?
A Yes.
Q Then it follows, and I will get to this in a second, but then it has some specific exclusions. Do you see that?
A Yes.
Q Okay. Do you agree with me that none of (i), (ii) or (iii) would include the ACK?
MR. OLSON: Object to form.

[redacted]

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[redacted]

MR. OLSON: Object to form.
A Yes.
Q Then when you go to Included

[redacted]

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[redacted]

A I see no difference between the two.

[redacted]

Do you see that?
A I do.

[redacted]

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[redacted]

Q Does it have to include any exact copy or portion of the ARM Technology?
MR. OLSON: Same objection.
A I don't believe that standard understanding of the word "derivative" has to include something. It is just being used -- something that is derived from something else as used -- the thing it was derived from as the starting point or as the source or a source of the creation.
Q So, if I understand you correctly, it is possible to have a derivative of ARM Technology where what you are calling the derivative has no exact text or portion of text that is directly traceable to the ARM Technology? Is that accurate?
MR. OLSON: Same objections.

[redacted]

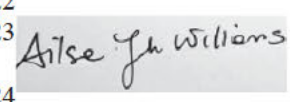
CERTIFICATE OF WITNESS

I, Richard Grisenthwaite, am the witness in the foregoing deposition. I have read the foregoing statement and, having made such changes and corrections as I desired, I certify that the transcript is a true and accurate record of my responses to the questions put to me on Wednesday, 15 November, 2023.

Signed: .....
Name: Richard Grisenthwaite
Date: .....

CERTIFICATE OF COURT REPORTER

I, AILSA WILLIAMS, an Accredited LiveNote Reporter, hereby certify that Richard Grisenthwaite was duly sworn, that I took the Stenograph notes of the foregoing deposition and that the transcript thereof is a true and accurate record transcribed to the best of my skill and ability. I further certify that I am neither counsel for, related to, nor employed by any of the parties to the action in which the deposition was taken, and that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.
Before completion of the deposition, review of the transcript was requested. Any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.



AILSA WILLIAMS
Dated: November 20, 2023

ERRATA
Deposition of Richard Grisenthwaite
(Please show all corrections on this page, not in the transcript.)

Page/Line No.	Description	Reason for change

Signed: .....
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(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

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EXHIBIT 26

Arm® Architecture Reference Manual

Armv8, for A-profile architecture

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ARM DDI 0487G.b (ID072021)

Arm Architecture Reference Manual
Armv8, for A-profile architecture

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Release Information

The following releases of this document have been made.

Release history

Date	Issue	Confidentiality	Change
30 April 2013	A.a-1	Confidential-Beta Draft	Beta draft of first issue, limited circulation
12 June 2013	A.a-2	Confidential-Beta Draft	Second beta draft of first issue, limited circulation
04 September 2013	A.a	Non-Confidential Beta	Beta release
24 December 2013	A.b	Non-Confidential Beta	Second beta release
18 July 2014	A.c	Non-Confidential Beta	Third beta release
09 October 2014	A.d	Non-Confidential Beta	Fourth beta release
17 December 2014	A.e	Non-Confidential Beta	Fifth beta release
25 March 2015	A.f	Non-Confidential Beta	Sixth beta release
10 July 2015	A.g	Non-Confidential Beta	Seventh beta release
30 September 2015	A.h	Non-Confidential Beta	Eighth beta release
28 January 2016	A.i	Non-Confidential Beta	Ninth beta release
03 June 2016	A.j	Non-Confidential EAC	EAC release
30 September 2016	A.k	Non-Confidential Armv8.0 EAC	Updated EAC release
31 March 2017	B.a	Non-Confidential Armv8.1 EAC, v8.2 Beta	Initial release incorporating Armv8.1 and Armv8.2
26 September 2017	B.b	Non-Confidential Armv8.2 EAC	Initial Armv8.2 EAC release, incorporating SPE
20 December 2017	C.a	Non-Confidential Armv8.3 EAC	Initial Armv8.3 EAC release
31 October 2018	D.a	Non-Confidential Armv8.4 EAC	Initial Armv8.4 EAC release
29 April 2019	D.b	Non-Confidential Armv8.4 EAC	Updated Armv8.4 EAC release incorporating accessibility changes
05 July 2019	E.a	Non-Confidential Armv8.5 EAC	Initial Armv8.5 EAC release
20 February 2020	F.a	Non-Confidential Armv8.6 Beta	Initial Armv8.6 Beta release
31 March 2020	F.b	Non-Confidential Armv8.5 EAC, v8.6 Beta	Armv8.5 EAC release, initial Armv8.6 Beta release
17 July 2020	F.c	Non-Confidential Armv8.6 EAC	Initial Armv8.6 EAC release
22 January 2021	G.a	Non-Confidential Armv8.7 EAC	Initial Armv8.7 EAC release
22 July 2021	G.b	Non-Confidential Armv8.7 EAC	Updated Armv8.7 EAC release

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(LES-PRE-20349 version 21.0)

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Note

- The term Arm can refer to versions of the Arm architecture, for example Armv8 refers to version 8 of the Arm architecture. The context makes it clear when the term is used in this way.
- This document describes only the Armv8-A architecture profile. For the behaviors required by the previous version of this architecture profile, ARMv7-A, see the *ARM Architecture Reference Manual, ARMv7-A and ARMv7-R edition*.

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Product Status

The information in this document is final, that is for a developed product.

The information in this manual is at EAC quality, which means that all features of the specification are described in the manual.

Web Address

`http://www.arm.com`

Limitations of this issue

This issue of the Armv8 Architecture Reference Manual contains many improvements and corrections. Validation of this document has identified the following issues that Arm will address in future issues:

- *PE state on reset to AArch64 state* on page D1-2472 and *PE state on reset into AArch32 state* on page G1-6100 require further update. Since the reset information is present in the register descriptions, this does not affect the quality status of the release.
- Appendix K14 *Arm Pseudocode Definition* requires further review and update. Since this appendix is informative, rather than being part of the architecture specification, this does not affect the quality status of this release.

- For a list of the known issues in this Manual, please refer to the Known Issues document on https://developer.arm.com/documentation/102105/latest.
- For a list of the known issues in the System register and instruction XML content, please refer to the Release Notes on https://developer.arm.com/architectures/cpu-architecture/a-profile/exploration-tools.

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Glossary

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Preface

This preface introduces the *Arm Architecture Reference Manual, Armv8, for Armv8-A architecture profile*. It contains the following sections:

- *About this Manual* on page xviii.
- *Using this Manual* on page xx.
- *Conventions* on page xxvi.
- *Additional reading* on page xxviii.
- *Feedback* on page xxx.

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About this Manual

This manual describes the Arm® architecture v8, Armv8. The architecture describes the operation of an Armv8-A *Processing element (PE)*, and this Manual includes descriptions of:

- The two Execution states, AArch64 and AArch32.
- The instruction sets:
  - In AArch32 state, the A32 and T32 instruction sets, that are compatible with earlier versions of the Arm architecture.
  - In AArch64 state, the A64 instruction set.
- The states that determine how a PE operates, including the current Exception level and Security state, and in AArch32 state the PE mode.
- The Exception model.
- The interprocessing model, that supports transitioning between AArch64 state and AArch32 state.
- The memory model, that defines memory ordering and memory management. This manual covers a single architecture profile, Armv8-A, that defines a *Virtual Memory System Architecture* (VMSA).
- The programmers' model, and its interfaces to System registers that control most PE and memory system features, and provide status information.
- The Advanced SIMD and floating-point instructions, that provide high-performance:
  - Single-precision, half-precision, and double-precision floating-point operations.
  - Conversions between double-precision, single-precision, and half-precision floating-point values.
  - Integer, single-precision floating-point, and half-precision floating-point vector operations in all instruction sets.
  - Double-precision floating-point vector operations in the A64 instruction set.
- The security model, that provides two Security states to support Secure applications.
- The virtualization model.
- The Debug architecture, that provides software access to debug features.

This manual gives the assembler syntax for the instructions it describes, meaning that it describes instructions in textual form. However, this Manual is not a tutorial for Arm assembler language, nor does it describe Arm assembler language, except at a very basic level. To make effective use of Arm assembler language, read the documentation supplied with the assembler being used.

This manual is organized into parts:

Part A Provides an introduction to the Armv8-A architecture, and an overview of the AArch64 and AArch32 Execution states.

Part B Describes the application level view of the AArch64 Execution state, meaning the view from EL0. It describes the application level view of the programmers' model and the memory model.

Part C Describes the A64 instruction set, that is available in the AArch64 Execution state. The descriptions for each instruction also include the precise effects of each instruction when executed at EL0, described as *unprivileged* execution, including any restrictions on its use, and how the effects of the instruction differ at higher Exception levels. This information is of primary importance to authors and users of compilers, assemblers, and other programs that generate Arm machine code.

Part D Describes the system level view of the AArch64 Execution state. It includes details of the System registers, most of which are not accessible from EL0, and the system level view of the programmers' model and the memory model. This part includes the description of self-hosted debug.

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Part E Describes the application level view of the AArch32 Execution state, meaning the view from the EL0. It describes the application level view of the programmers' model and the memory model.

Note

In AArch32 state, execution at EL0 is execution in User mode.

Part F Describes the T32 and A32 instruction sets, that are available in the AArch32 Execution state. These instruction sets are backwards-compatible with earlier versions of the Arm architecture. This part describes the precise effects of each instruction when executed in User mode, described as *unprivileged* execution or execution at EL0, including any restrictions on its use, and how the effects of the instruction differ at higher Exception levels. This information is of primary importance to authors and users of compilers, assemblers, and other programs that generate Arm machine code.

Note

User mode is the only mode where software execution is unprivileged.

Part G Describes the system level view of the AArch32 Execution state, that is generally compatible with earlier versions of the Arm architecture. This part includes details of the System registers, most of which are not accessible from EL0, and the instruction interface to those registers. It also describes the system level view of the programmers' model and the memory model.

Part H Describes the Debug architecture for external debug. This provides configuration, breakpoint and watchpoint support, and a *Debug Communications Channel* (DCC) to a debug host.

Part I Describes additional features of the architecture that are not closely coupled to a *processing element* (PE), and therefore are accessed through memory-mapped interfaces. Some of these features are OPTIONAL.

Part J Provides pseudocode that describes various features of the Armv8 architecture.

Part K, Appendixes

Provide additional information. Some appendixes give information that is not part of the Armv8 architectural requirements. The cover page of each appendix indicates its status.

Glossary Defines terms used in this document that have a specialized meaning.

Note

Terms that are generally well understood in the microelectronics industry are not included in the Glossary.

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Using this Manual

The information in this Manual is organized into parts, as described in this section.

Part A, Introduction and Architecture Overview

Part A gives an overview of the Armv8-A architecture profile, including its relationship to the other Arm PE architectures. It introduces the terminology used to describe the architecture, and gives an overview of the Executions states, AArch64 and AArch32. It contains the following chapter:

Chapter A1 ***Introduction to the Armv8 Architecture***

Read this for an introduction to the Armv8 architecture.

Chapter A2 ***Armv8-A Architecture Extensions***

Read this for an introduction to the Armv8 architecture extensions.

Part B, The AArch64 Application Level Architecture

Part B describes the AArch64 state application level view of the architecture. It contains the following chapters:

Chapter B1 ***The AArch64 Application Level Programmers' Model***

Read this for an application level description of the programmers' model for software executing in AArch64 state. It describes execution at EL0 when EL0 is using AArch64 state.

Chapter B2 ***The AArch64 Application Level Memory Model***

Read this for an application level description of the memory model for software executing in AArch64 state. It describes the memory model for execution in EL0 when EL0 is using AArch64 state. It includes information about Arm memory types, attributes, and memory access controls.

Part C, The A64 Instruction Set

Part C describes the A64 instruction set, that is used in AArch64 state. It contains the following chapters:

Chapter C1 ***The A64 Instruction Set***

Read this for a description of the A64 instruction set and common instruction operation details.

Chapter C2 ***About the A64 Instruction Descriptions***

Read this to understand the format of the A64 instruction descriptions.

Chapter C3 ***A64 Instruction Set Overview***

Read this for an overview of the individual A64 instructions, that are divided into five functional groups.

Chapter C4 ***A64 Instruction Set Encoding***

Read this for a description of the A64 instruction set encoding.

Chapter C5 ***The A64 System Instruction Class***

Read this for a description of the AArch64 System instructions and register descriptions, and the System instruction class encoding space.

Chapter C6 ***A64 Base Instruction Descriptions***

Read this for information on key aspects of the A64 base instructions and for descriptions of the individual instructions, which are listed in alphabetical order.

Chapter C7 ***A64 Advanced SIMD and Floating-point Instruction Descriptions***

Read this for information on key aspects of the A64 Advanced SIMD and floating-point instructions and for descriptions of the individual instructions, which are listed in alphabetical order.

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Part D, The AArch64 System Level Architecture

Part D describes the AArch64 state system level view of the architecture. It contains the following chapters:

Chapter D1 ***The AArch64 System Level Programmers' Model***

Read this for a description of the AArch64 state system level view of the programmers' model.

Chapter D2 ***AArch64 Self-hosted Debug***

Read this for an introduction to, and a description of, self-hosted debug in AArch64 state.

Chapter D3 ***AArch64 Self-hosted Trace***

Read this for an introduction to, and a description of, self-hosted trace in AArch64 state.

Chapter D4 ***The AArch64 System Level Memory Model***

Read this for a description of the AArch64 state system level view of the general features of the memory system.

Chapter D5 ***The AArch64 Virtual Memory System Architecture***

Read this for a system level view of the AArch64 Virtual Memory System Architecture (VMSA), the memory system architecture of an Armv8 implementation executing in AArch64 state.

Chapter D7 ***The Performance Monitors Extension***

Read this for a description of an implementation of the Arm Performance Monitors, an optional non-invasive debug component.

Chapter D8 ***The Activity Monitors Extension***

Read this for a description of an implementation of the Arm Activity Monitors, an optional non-invasive component.

Chapter D9 ***The Statistical Profiling Extension***

Read this for a description of an implementation of the Statistical Profiling Extension, an optional AArch64 state non-invasive debug component.

Chapter D10 ***Statistical Profiling Extension Sample Record Specification***

Read this for a description the sample records generated by the Statistical Profiling Extension.

Chapter D11 ***The Generic Timer in AArch64 state***

Read this for a description of the AArch64 view of an implementation of the Arm Generic Timer.

Chapter D12 ***AArch64 System Register Encoding***

Read this for a description of the encoding of the AArch64 System registers, and the other uses of the AArch64 System registers encoding space.

Chapter D13 ***AArch64 System Register Descriptions***

Read this for an introduction to, and description of, each of the AArch64 System registers.

Part E, The AArch32 Application Level Architecture

Part E describes the AArch32 state application level view of the architecture. It contains the following chapters:

Chapter E1 ***The AArch32 Application Level Programmers' Model***

Read this for an application level description of the programmers' model for software executing in AArch32 state. It describes execution at EL0 when EL0 is using AArch32 state.

Chapter E2 ***The AArch32 Application Level Memory Model***

Read this for an application level description of the memory model for software executing in AArch32 state. It describes the memory model for execution in EL0 when EL0 is using AArch32 state. It includes information about Arm memory types, attributes, and memory access controls.

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Part F, The AArch32 Instruction Sets

Part F describes the T32 and A32 instruction sets, that are used in AArch32 state. It contains the following chapters:

Chapter F1 ***About the T32 and A32 Instruction Descriptions***

Read this to understand the format of the T32 and A32 instruction descriptions.

Chapter F2 ***The AArch32 Instruction Sets Overview***

Read this for an overview of the T32 and A32 instruction sets.

Chapter F3 ***T32 Instruction Set Encoding***

Read this for a description of the T32 instruction set encoding. This includes the T32 encoding of the Advanced SIMD and floating-point instructions.

Chapter F4 ***A32 Instruction Set Encoding***

Read this for a description of the A32 instruction set encoding. This includes the A32 encoding of the Advanced SIMD and floating-point instructions.

Chapter F5 ***T32 and A32 Base Instruction Set Instruction Descriptions***

Read this for a description of each of the T32 and A32 base instructions.

Chapter F6 ***T32 and A32 Advanced SIMD and Floating-point Instruction Descriptions***

Read this for a description of each of the T32 and A32 Advanced SIMD and floating-point instructions.

Part G, The AArch32 System Level Architecture

Part G describes the AArch32 state system level view of the architecture. It contains the following chapters:

Chapter G1 ***The AArch32 System Level Programmers' Model***

Read this for a description of the AArch32 state system level view of the programmers' model for execution in an Exception level that is using AArch32.

Chapter G2 ***AArch32 Self-hosted Debug***

Read this for an introduction to, and a description of, self-hosted debug in AArch64 state.

Chapter G3 ***AArch32 Self-hosted Trace***

Read this for an introduction to, and a description of, self-hosted trace in AArch64 state.

Chapter G4 ***The AArch32 System Level Memory Model***

Read this for a system level view of the general features of the memory system.

Chapter G5 ***The AArch32 Virtual Memory System Architecture***

Read this for a description of the AArch32 Virtual Memory System Architecture (VMSA).

Chapter G6 ***The Generic Timer in AArch32 state***

Read this for a description of the AArch32 view of an implementation of the Arm Generic Timer.

Chapter G7 ***AArch32 System register Encoding***

Read this for a description of the encoding of the AArch32 System registers, including the System instructions that are part of the AArch32 System registers encoding space.

Chapter G8 ***AArch32 System Register Descriptions***

Read this for a description of each of the AArch32 System registers.

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Part H, External Debug

Part H describes the architecture for external debug. It contains the following chapters:

Chapter H1 ***About External Debug***

Read this for an introduction to external debug, and a definition of the scope of this part of the manual.

Chapter H2 ***Debug State***

Read this for a description of Debug state, which the PE might enter as the result of a Halting debug event.

Chapter H3 ***Halting Debug Events***

Read this for a description of the external debug events referred to as Halting debug events.

Chapter H4 ***The Debug Communication Channel and Instruction Transfer Register***

Read this for a description of the communication between a debugger and the PE debug logic using the Debug Communications Channel and the Instruction Transfer register.

Chapter H5 ***The Embedded Cross-Trigger Interface***

Read this for a description of the embedded cross-trigger interface.

Chapter H6 ***Debug Reset and Powerdown Support***

Read this for a description of reset and powerdown support in the Debug architecture.

Chapter H7 ***The PC Sample-based Profiling Extension***

Read this for a description of the PC Sample-based Profiling Extension that is an OPTIONAL extension to an Armv8 implementation.

Chapter H8 ***About the External Debug Registers***

Read this for some additional information about the external debug registers.

Chapter H9 ***External Debug Register Descriptions***

Read this for a description of each external debug register.

Part I, Memory-mapped Components of the Armv8 Architecture

Part I describes the memory-mapped components in the architecture. It contains the following chapters:

Chapter I1 ***Requirements for Memory-mapped Components***

Read this for descriptions of some general requirements for memory-mapped components within a system that complies with the Armv8 Architecture.

Chapter I2 ***System Level Implementation of the Generic Timer***

Read this for a definition of a system level implementation of the Generic Timer.

Chapter I3 ***Recommended External Interface to the Performance Monitors***

Read this for a description of the recommended memory-mapped and external debug interfaces to the Performance Monitors.

Chapter I4 ***Recommended External Interface to the Activity Monitors***

Read this for a description of the recommended memory-mapped interface to the Activity Monitors.

Chapter I5 ***External System Control Register Descriptions***

Read this for a description of each memory-mapped system control register.

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Part J, Architectural Pseudocode

Part J contains pseudocode that describes various features of the Arm architecture. It contains the following chapter:

Chapter J1 ***Armv8 Pseudocode***

Read this for the pseudocode definitions that describe various features of the Armv8 architecture, for operation in AArch64 state and in AArch32 state.

Part K, Appendixes

This manual contains the following appendixes:

Appendix K1 ***Architectural Constraints on UNPREDICTABLE Behaviors***

Read this for a description of the architecturally-required constraints on UNPREDICTABLE behaviors in the Armv8 architecture, including AArch32 behaviors that were UNPREDICTABLE in previous versions of the architecture.

Appendix K2 ***Recommended External Debug Interface***

Read this for a description of the recommended external debug interface.

——— **Note** ———

This description is not part of the Arm architecture specification. It is included here as supplementary information, for the convenience of developers and users who might require this information.

———

Appendix K3 ***Recommendations for Performance Monitors Event Numbers for IMPLEMENTATION DEFINED Events***

Read this for a description of Arm recommendations for the use of the IMPLEMENTATION DEFINED event numbers.

——— **Note** ———

This description is not part of the Arm architecture specification. It is included here as supplementary information, for the convenience of developers and users who might require this information.

———

Appendix K4 ***Recommendations for Reporting Memory Attributes on an Interconnect***

Read this for the Arm recommendations about how the architectural memory attributes are reported on an interconnect.

Appendix K5 ***Additional Information for Implementations of the Generic Timer***

Read this for additional information about implementations of the Arm Generic Timer. This information does not form part of the architectural definition of the Generic Timer.

Appendix K6 ***Legacy Instruction Syntax for AArch32 Instruction Sets***

Read this for information about the pre-UAL syntax of the AArch32 instruction sets, which can still be valid for the A32 instruction set.

Appendix K7 ***Address Translation Examples***

Read this for examples of translation table lookups using the translation regimes described in Chapter D5 *The AArch64 Virtual Memory System Architecture* and Chapter G5 *The AArch32 Virtual Memory System Architecture*.

Appendix K8 ***Example OS Save and Restore Sequences***

Read this for software examples that perform the OS Save and Restore sequences for an Armv8 debug implementation.

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Note

Chapter H6 *Debug Reset and Powerdown Support* describes the OS Save and Restore mechanism.

Appendix K9 *Recommended Upload and Download Processes for External Debug*

Read this for information about implementing and using the Arm architecture.

Note

This description is not part of the Arm architecture specification. It is included here as supplementary information, for the convenience of developers and users who might require this information.

Appendix K10 *Software Usage Examples*

Read this for software examples that help understanding of some aspects of the Arm architecture.

Note

This description is not part of the Arm architecture specification. It is included here as supplementary information, for the convenience of developers and users who might require this information.

Appendix K11 *Barrier Litmus Tests*

Read this for examples of the use of barrier instructions provided by the Armv8 architecture.

Note

This description is not part of the Arm architecture specification. It is included here as supplementary information, for the convenience of developers and users who might require this information.

Appendix K14 *Arm Pseudocode Definition*

Read this for definitions of the AArch32 pseudocode.

Appendix K15 *Registers Index*

Read this for an alphabetic and functional index of AArch32 and AArch64 registers, and memory-mapped registers.

Glossary

Defines terms used in this document that have a specialized meaning.

Note

Terms that are generally well understood in the microelectronics industry are not included in the Glossary.

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Conventions

The following sections describe conventions that this book can use:

- *Typographic conventions* on page xxvi.
- *Signals* on page xxvii.
- *Numbers* on page xxvii.
- *Pseudocode descriptions* on page xxvii.
- *Assembler syntax descriptions* on page xxvii.

Typographic conventions

The typographical conventions are:

italic Introduces special terminology, and denotes citations.

bold Denotes signal names, and is used for terms in descriptive lists, where appropriate.

`monospace` Used for assembler syntax descriptions, pseudocode, and source code examples.

Also used in the main text for instruction mnemonics and for references to other items appearing in assembler syntax descriptions, pseudocode, and source code examples.

SMALL CAPITALS

Used in body text for a few terms that have specific technical meanings, and are defined in the *Glossary*.

Colored text Indicates a link. This can be:

- A URL, for example `https://developer.arm.com`.
- A cross-reference, that includes the page number of the referenced information if it is not on the current page, for example, *Assembler syntax descriptions* on page xxvii.
- A link, to a chapter or appendix, or to a glossary entry, or to the section of the document that defines the colored term, for example *Simple sequential execution* or SCTLR.

{ and } Braces, { and }, have two distinct uses:

Optional items

In syntax descriptions braces enclose optional items. In the following example they indicate that the `<shift>` parameter is optional:

```
ADD <Wd|WSP>, <Wn|WSP>, #<imm>{, <shift>}
```

Similarly they can be used in generalized field descriptions, for example TCR_ELx.{I}PS refers to a field in the TCR_ELx registers that is called either IPS or PS.

Sets of items

Braces can be used to enclose sets. For example, HCR_EL2.{E2H, TGE} refers to a set of two register fields, HCR_EL2.E2H and HCR_EL2.TGE

Notes Notes are formatted as:

Note

This is a Note.

In this Manual, Notes are used only to provide additional information, usually to help understanding of the text. While a Note may repeat architectural information given elsewhere in the Manual, a Note never provides any part of the definition of the architecture.

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Signals

In general this specification does not define hardware signals, but it does include some signal examples and recommendations. The signal conventions are:

Signal level The level of an asserted signal depends on whether the signal is active-HIGH or active-LOW. Asserted means:

- HIGH for active-HIGH signals.
- LOW for active-LOW signals.

Lowercase n At the start or end of a signal name denotes an active-LOW signal.

Numbers

Numbers are normally written in decimal. Binary numbers are preceded by `0b`, and hexadecimal numbers by `0x`. In both cases, the prefix and the associated value are written in a `monospace` font, for example `0xFFFF0000`. To improve readability, long numbers can be written with an underscore separator between every four characters, for example `0xFFFF_0000_0000_0000`. Ignore any underscores when interpreting the value of a number.

Pseudocode descriptions

This manual uses a form of pseudocode to provide precise descriptions of the specified functionality. This pseudocode is written in `monospace` font, and is described in Appendix K14 *Arm Pseudocode Definition*.

Assembler syntax descriptions

This manual contains numerous syntax descriptions for assembler instructions and for components of assembler instructions. These are shown in a `monospace` font, and use the conventions described in *Structure of the A64 assembler language* on page C1-195, and Appendix K14 *Arm Pseudocode Definition*.

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Additional reading

This section lists relevant publications from Arm and third parties.

See Arm Developer, `https://developer.arm.com`, for access to Arm documentation.

Arm publications

- *ARM® AMBA® 4 ATB Protocol Specification, ATBv1.0 and ATBv1.1*, (ARM IHI 0032B).
- *ARM® Architecture Reference Manual, ARMv7-A and ARMv7-R edition* (ARM DDI 0406).
- *ARM® Architecture Reference Manual Supplement, ARMv8, for the ARMv8-R AArch32 architecture profile* (ARM DDI 0568).
- *ARM® Debug Interface Architecture Specification, ADIv6.0* (ARM IHI 0074).
- *ARM® Debug Interface Architecture Specification, ADIv5.0 to ADIv5.2* (ARM IHI 0031).
- *ARM® Embedded Trace Macrocell Architecture Specification, ETMv4* (ARM IHI 0064).
- *ARM® Generic Interrupt Controller Architecture Specification, GIC architecture version 3.0 and version 4.0* (ARM IHI 0069).
- *ARM® CoreSight™ SoC Technical Reference Manual* (ARM DDI 0480).
- *ARM® CoreSight™ Architecture Specification* (ARM IHI 0029).
- *ARM® Procedure Call Standard for the ARM 64-bit Architecture* (ARM IHI 0055).
- *Arm® Reliability, Availability, and Serviceability (RAS) Specification, Armv8, for the Armv8-A architecture profile* (ARM DDI 0587).
- *Arm® Architecture Reference Manual Supplement, The Scalable Vector Extension (SVE), for Armv8-A* (ARM DDI 0584).
- *Arm® Architecture Reference Manual Supplement, Memory System Resource Partitioning and Monitoring (MPAM), for A-Profile Architecture* (ARM DDI 0598).

Other publications

The following publications are referred to in this Manual, or provide more information:

- *Announcing the Advanced Encryption Standard (AES)*, Federal Information Processing Standards Publication 197, November 2001.
- IEEE Std 754-2008, *IEEE Standard for Floating-point Arithmetic*, August 2008.
- IEEE Std 754-1985, *IEEE Standard for Floating-point Arithmetic*, March 1985.
- *Secure Hash Standard (SHA)*, Federal Information Processing Standards Publication 180-2, August 2002.
- *The Galois/Counter Mode of Operation*, McGraw, D. and Viega, J., Submission to NIST Modes of Operation Process, January 2004.
- *Memory Consistency Models for Shared Memory-Multiprocessors*, Gharachorloo, Kourosh, 1995, Stanford University Technical Report CSL-TR-95-685.
- *Standard Manufacturer's Identification Code, JEP106*, JEDEC Solid State Technology Association.
- *SM3 Cryptographic Hash Algorithm*, China Internet Network Information Center (CNNIC).
- *SM4 Block Cipher Algorithm*, China Internet Network Information Center (CNNIC).
- *The QARMA Block Cipher Family*, Roberto Avanzi, Qualcomm Product Security Initiative.

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Feedback

Arm welcomes feedback on its documentation.

Feedback on this Manual

If you have comments on the content of this Manual, send email to `errata@arm.com`. Give:

- The title, *Arm® Architecture Reference Manual, Armv8, for Armv8-A architecture profile.*
- The number, ARM DDI 0487G.b.
- The section name to which your comments refer.
- The page numbers to which your comments refer.
- A concise explanation of your comments.

Arm also welcomes general suggestions for additions and improvements.

Note

Arm tests PDFs only in Adobe Acrobat and Acrobat Reader, and cannot guarantee the appearance or behavior of any document when viewed with any other PDF reader.

Progressive Terminology Commitment

Arm values inclusive communities. Arm recognizes that we and our industry have used terms that can be offensive. Arm strives to lead the industry and create change.

Previous issues of this document included terms that can be offensive. We have replaced these terms. If you find offensive terms in this document, please contact `terms@arm.com`.

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Part A

Armv8 Architecture Introduction and Overview

Chapter A1
Introduction to the Armv8 Architecture

This chapter introduces the Arm architecture. It contains the following sections:

- *About the Arm architecture* on page A1-34.
- *Architecture profiles* on page A1-36.
- *Armv8 architectural concepts* on page A1-37.
- *Supported data types* on page A1-40.
- *Advanced SIMD and floating-point support* on page A1-52.
- *The Arm memory model* on page A1-62.

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A1.1 About the Arm architecture

The Arm architecture described in this Architecture Reference Manual defines the behavior of an abstract machine, referred to as a *processing element*, often abbreviated to *PE*. Implementations compliant with the Arm architecture must conform to the described behavior of the processing element. It is not intended to describe how to build an implementation of the PE, nor to limit the scope of such implementations beyond the defined behaviors.

Except where the architecture specifies differently, the programmer-visible behavior of an implementation that is compliant with the Arm architecture must be the same as a simple sequential execution of the program on the processing element. This programmer-visible behavior does not include the execution time of the program.

The Arm Architecture Reference Manual also describes rules for software to use the processing element.

The Arm architecture includes definitions of:

- An associated debug architecture, see:
  - Chapter D2 *AArch64 Self-hosted Debug*.
  - Chapter G2 *AArch32 Self-hosted Debug*.
  - Part H of this Manual, *External Debug* on page Part H-7331.
- Associated trace architectures that define PE Trace Units that implementers can implement with the associated processor hardware. For more information, see:
  - The *Embedded Trace Macrocell Architecture Specification*.
  - Chapter D3 *AArch64 Self-hosted Trace*.
  - Chapter G3 *AArch32 Self-hosted Trace*.

The Arm architecture is a *Reduced Instruction Set Computer* (RISC) architecture with the following RISC architecture features:

- A large uniform register file.
- A *load/store* architecture, where data-processing operations only operate on register contents, not directly on memory contents.
- Simple addressing modes, with all load/store addresses determined from register contents and instruction fields only.

The architecture defines the interaction of the PE with memory, including caches, and includes a memory translation system. It also describes how multiple PEs interact with each other and with other observers in a system.

This document defines the Armv8-A architecture *profile*. See *Architecture profiles* on page A1-36 for more information.

The Arm architecture supports implementations across a wide range of performance points. Implementation size, performance, and very low power consumption are key attributes of the Arm architecture.

An important feature of the Armv8 architecture is backwards compatibility, combined with the freedom for optimal implementation in a wide range of standard and more specialized use cases. The Armv8 architecture supports:

- A 64-bit Execution state, AArch64.
- A 32-bit Execution state, AArch32, that is compatible with previous versions of the Arm architecture.

Note

The AArch32 Execution state is compatible with the Armv7-A architecture profile, and enhances that profile to support some features included in the AArch64 Execution state.

Features that are optional are explicitly defined as such in this Manual.

Note

The presence of an ID register field for a feature does not imply that the feature is optional.

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Both Execution states support SIMD and floating-point instructions:

- AArch32 state provides:
  - SIMD instructions in the base instruction sets that operate on the 32-bit general-purpose registers.
  - Advanced SIMD instructions that operate on registers in the *SIMD and floating-point register* (SIMD&FP register) file.
  - Floating-point instructions that operate on registers in the SIMD&FP register file.
- AArch64 state provides:
  - Advanced SIMD instructions that operate on registers in the SIMD&FP register file.
  - Floating-point instructions that operate on registers in the SIMD&FP register file.

Note

See *Conventions* on page xxvi for information about conventions used in this Manual, including the use of SMALL CAPITALS for particular terms that have Arm-specific meanings that are defined in the *Glossary*.

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A1.2 Architecture profiles

The Arm architecture has evolved significantly since its introduction, and Arm continues to develop it. Eight major versions of the architecture have been defined to date, denoted by the version numbers 1 to 8. Of these, the first three versions are now obsolete.

The generic names AArch64 and AArch32 describe the 64-bit and 32-bit Execution states:

AArch64 Is the 64-bit Execution state, meaning addresses are held in 64-bit registers, and instructions in the base instruction set can use 64-bit registers for their processing. AArch64 state supports the A64 instruction set.

AArch32 Is the 32-bit Execution state, meaning addresses are held in 32-bit registers, and instructions in the base instruction sets use 32-bit registers for their processing. AArch32 state supports the T32 and A32 instruction sets.

Note

The *Base instruction set* comprises the supported instructions other than the Advanced SIMD and floating-point instructions.

See sections *Execution state* on page A1-37 and *The Armv8 instruction sets* on page A1-38 for more information.

Arm defines three architecture profiles:

A Application profile, described in this Manual:

- Supports a *Virtual Memory System Architecture* (VMSA) based on a *Memory Management Unit* (MMU).

  Note

  An Armv8-A implementation can be called an AArchv8-A implementation.

- Supports the A64, A32, and T32 instruction sets.

R Real-time profile:

- Supports a *Protected Memory System Architecture* (PMSA) based on a *Memory Protection Unit* (MPU).
- Supports the A32 and T32 instruction sets.

M Microcontroller profile:

- Implements a programmers' model designed for low-latency interrupt processing, with hardware stacking of registers and support for writing interrupt handlers in high-level languages.
- Implements a variant of the R-profile PMSA.
- Supports a variant of the T32 instruction set.

Note

This Architecture Reference Manual describes only the Armv8-A profile.

For information about the R and M architecture profiles, and earlier Arm architecture versions see:

- The *ARM® Architecture Reference Manual Supplement, ARMv8, for the ARMv8-R AArch32 architecture profile.*
- The *ARM® Architecture Reference Manual, ARMv7-A and ARMv7-R edition.*
- The *Arm®v8-M Architecture Reference Manual.*
- The *ARM®v7-M Architecture Reference Manual.*
- The *ARM®v6-M Architecture Reference Manual.*

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A1.3 Armv8 architectural concepts

Armv8 introduces major changes to the Arm architecture, while maintaining a high level of consistency with previous versions of the architecture. The Armv8 Architecture Reference Manual includes significant changes in the terminology used to describe the architecture, and this section introduces both the Armv8 architectural concepts and the associated terminology.

The following subsections describe key Armv8 architectural concepts. Each section introduces the corresponding terms that are used to describe the architecture:

- *Execution state* on page A1-37.
- *The Armv8 instruction sets* on page A1-38.
- *System registers* on page A1-38.
- *Armv8 Debug* on page A1-39.

A1.3.1 Execution state

The Execution state defines the PE execution environment, including:

- The supported register widths.
- The supported instruction sets.
- Significant aspects of:
  - The Exception model.
  - The *Virtual Memory System Architecture* (VMSA).
  - The programmers' model.

The Execution states are:

AArch64 The 64-bit Execution state. This Execution state:

- Provides 31 64-bit general-purpose registers, of which X30 is used as the procedure link register.
- Provides a 64-bit *Program Counter* (PC), *stack pointers* (SPs), and *Exception Link Registers* (ELRs).
- Provides 32 128-bit registers for SIMD vector and scalar floating-point support.
- Provides a single instruction set, A64. For more information, see *The Armv8 instruction sets* on page A1-38.
- Defines the Armv8 Exception model, with up to four Exception levels, EL0 - EL3, that provide an *execution privilege* hierarchy, see *Exception levels* on page D1-2454.
- Provides support for 64-bit *virtual addressing*. For more information, including the limits on address ranges, see Chapter D5 *The AArch64 Virtual Memory System Architecture*.
- Defines a number of *Process state* (PSTATE) elements that hold PE state. The A64 instruction set includes instructions that operate directly on various PSTATE elements.
- Names each System register using a suffix that indicates the lowest Exception level at which the register can be accessed.

AArch32 The 32-bit Execution state. This Execution state:

- Provides 13 32-bit general-purpose registers, and a 32-bit PC, SP, and *Link Register* (LR). The LR is used as both an ELR and a procedure link register.

  Some of these registers have multiple *banked* instances for use in different PE *modes*.
- Provides a single ELR, for exception returns from Hyp mode.
- Provides 32 64-bit registers for Advanced SIMD vector and scalar floating-point support.
- Provides two instruction sets, A32 and T32. For more information, see *The Armv8 instruction sets* on page A1-38.
- Supports the Armv7-A Exception model, based on *PE modes*, and maps this onto the Armv8 Exception model, that is based on the Exception levels.
- Provides support for 32-bit virtual addressing.

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EXHIBIT 27

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARM LTD., a U.K. corporation,) Case No.: C.A. No. 22-1146-MN
)
Plaintiff,)
)
v.)
)
QUALCOMM, INC., a Delaware corporation, et al.,)
)
Defendants.)

HIGHLY CONFIDENTIAL: ATTORNEYS' EYES ONLY
VIDEOTAPED DEPOSITION OF NITIN SHARMA
755 Page Mill Road
Palo Alto, California 94304
October 27, 2023
9:07 a.m.

REPORTED BY:
Tammy Moon, CSR No. 13184, RDR, CRR

APPEARANCES:
FOR PLAINTIFF ARM LTD., a U.K. corporation:
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ALSO PRESENT: KEVIN MCMAHON, THE VIDEOGRAPHER

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NITIN SHARMA
Friday, October 27, 2023
Tammy Moon CSR No. 13184, RPR, CRR
WITNESS: NITIN SHARMA

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Tammy Moon CSR No. 13184, RPR, CRR

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Friday, October 27, 2023, 9:07 a.m.

THE VIDEOGRAPHER: Good morning. We are on the video record on October 27, 2023. The time is 9:07 a.m.

My name is Kevin McMahon. I am the legal videographer. And the court reporter today is Tammy Moon. We are both here representing Esquire Deposition Solutions.

This is the beginning of Media Unit 1 for the deposition of Nitin Sharma in the matter of Arm Ltd. v. Qualcomm Inc. The case number is 22-1146-MN, in the United States District Court, for the District of Delaware.

We are located today at Morrison Foerster, 755 Page Mill Road, Building A, Palo Alto, California 94304.

Counsel, would you please identify yourselves for the record.

MR. FUNG: Nicholas Fung, from Morrison Foerster, here on behalf of plaintiff, Arm.

MS. NYARADY: Catherine Nyarady, from Paul, Weiss, on behalf of the defendants and the witness. And I'm joined today by Jacob Braly, also from Paul, Weiss, and Guy Perry, from Qualcomm.

THE VIDEOGRAPHER: The court reporter may

swear in the witness, and then we will proceed.

NITIN SHARMA,
called as a witness, having been duly sworn, testified as follows:

THE WITNESS: I do.

DIRECT EXAMINATION BY MR. FUNG

MR. FUNG:

Q. All right. Good morning, Mr. Sharma.
A. Hi.
Q. Could you please state your name for the record?
A. Nitin Sharma.
Q. What is your current address?
A. You mean residential address?
Q. Residential address.
A. 17125 Skyline Boulevard, Woodside 94062, California.
Q. Are you currently employed by Qualcomm?
A. No.
Q. I'm sorry. Was that a yes or no?
A. No.
Q. Who is your current employer?
A. SiFive.
Q. How long have you been at SiFive?
A. About six weeks.

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which -- which may involve aspects like how the pipeline is defined, how the -- how many stages are there, what happens in each of the pipeline stages, or items like how power or performance is measured and microarchitectural functionalities related to power and performance.

So we would have very specific checkers defined based on those rules, which are purely microarchitectural rules, and we would write stimulus to exercise them.

The third part is ARM ISA compliance. And there, we would go through the Arm ARM primarily. And we would verify implementation against a reference model that we wrote after reading Arm ARM.

(Reporter clarification.)

Q. What is Arm ARM? Am I correct it's just Arm repeated twice?

A. Yes. That's -- that's a term that has been there since inception of Arm. It's Arm Architecture Reference Manuals, Arm ARM.

Q. Got it. And what is the Arm ARM? Is it a manual? Is it a computer file?

A. It's a manual. It's -- it's -- the document that I always refer to is a PDF document that can be downloaded from Arm's website.

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Q. When you say "downloaded from Arm's website," which website are you talking about?

A. It's publicly available from Arm's website.

Q. Okay. What do you mean by "ARM ISA compliance"?

A. So ARM ISA compliance is -- is a contractual requirement that I understand that -- that anybody who has ARM architecture license has to meet.

And what that implies is that an implementation must pass -- a set of tests that Arm provides, which -- which are part of ARM Compliance Test Suite. And, also, we have to demonstrate that we can boot an operating system on that implementation.

There's -- another part to that is that there may be some tests that may not pass, and that could be because of two issues. One is it may be a test issue.

So we have to agree with Arm that these are test issues, and they -- Arm agrees to waive them. Or we could have a negotiation and agreement with Arm to -- to say that they would waive certain functionality.

Q. Got it. You mentioned an [redacted]

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[redacted]. What is that?

A. It's a [redacted]

Q. Okay. I want to talk a little more.

You mentioned there's a waiver -- or Arm might decide to waive certain functionalities. Could you explain what you mean by "waive" -- "waiver."

A. So what that means is -- let's -- let me try to create an example.

Arm Architecture Reference Manual is about 8,000-plus pages, and there may be a rule about how the trace functionality may work. And -- and we may not be compliant, or we may be failing in Arm Architecture Test Suite in that area.

And -- and the [redacted] can fail because of two reasons. [redacted]

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[redacted]

(Reporter clarification.)

[redacted] that they're okay with this particular implementation not meeting that requirement.

Q. And the entire process you have been talking about, that's part of the ARM ISA compliance. Is that -- am I understanding that correctly?

A. So that's one of the part of [redacted]

[redacted]

Reference No.: 10406534

Case: ARM, LTD. V. QUALCOMM INC.

DECLARATION UNDER PENALTY OF PERJURY

I declare under penalty of perjury that I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me, and the same is true and accurate, save and except for changes and/or corrections, if any, as indicated by me on the DEPOSITION ERRATA SHEET hereof, with the understanding that I offer these changes as if still under oath.

_____
Nitin Sharma

NOTARIZATION OF CHANGES
(If Required)

Subscribed and sworn to on the _____ day of

_____, 20____ before me,

(Notary Sign)_____

(Print Name) Notary Public,

in and for the State of _____

Reference No.: 10406534

Case: ARM, LTD. V. QUALCOMM INC.

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Nitin Sharma

Reference No.: 10406534

Case: ARM, LTD. V. QUALCOMM INC.

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Nitin Sharma

EXHIBIT 28

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARM LTD., a U.K. corporation,
Plaintiff,
vs.
QUALCOMM INC., a Delaware corporation, QUALCOMM TECHNOLOGIES, INC., a Delaware corporation, and NUVIA, INC., a Delaware corporation,
Defendants.

C.A. No. 22-1146-MN

CONTAINS HIGHLY CONFIDENTIAL TESTIMONY
AND SOURCE CODE
ATTORNEYS' EYES ONLY

VIDEOTAPED DEPOSITION OF GERARD WILLIAMS, III

SAN DIEGO, CALIFORNIA

FRIDAY, NOVEMBER 3, 2023

8:33 A.M.

Job No.: J10401726
Pages: 1 - 267
Reported by: Leslie A. Todd, CSR No. 5129 and RPR

Deposition of GERARD WILLIAMS, III, held at the offices of:

Morrison & Foerster - San Diego
12531 High Bluff Drive
Suite 100
San Diego, California 92130

Pursuant to notice, before Leslie Anne Todd, California Certified Shorthand Reporter in and for the State of California, who officiated in administering the oath to the witness.

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ALSO PRESENT:
KURT KJELLAN, Qualcomm in-house counsel
RENE SANCHEZ, Videographer

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P R O C E E D I N G S

THE VIDEOGRAPHER: Good morning. This is Tape No. 1 to the videotaped deposition of Gerard Williams, III, testifying in the matter of Arm Limited, a UK corporation vs. Qualcomm, Inc., et al. This case is before the United States District Court for the District of Delaware. The case number is 22-1146-MN.

This deposition is being held at 12531 High Bluff Drive, Suite 100, in San Diego, California 92130. Today's date is November 3rd, 2023, and the time is 8:33 a.m., Pacific Standard Time.

My name is Rene Sanchez. I'm the videographer, here with our court reporter, Leslie Todd.

Would counsel please introduce yourselves and affiliations, and the witness will be sworn.

MR. JACOBS: Michael Jacobs, Morrison & Foerster, for the plaintiff, Arm. And with me is Reebehl El-Hage.

MS. NYARADY: Catherine Nyarady from Paul Weiss, representing the defendants and the

witness. And with me are Jacob Braly, also from Paul Weiss, and Kurt Kjellan from Qualcomm.

THE VIDEOGRAPHER: Thank you, Counsel. Will the court reporter please swear in the witness.

WHEREUPON,

GERARD WILLIAMS, III,

having been duly sworn by the Certified Shorthand Reporter, was examined and testified as follows:

EXAMINATION

BY MR. JACOBS:

Q Good morning, Mr. Williams.

A Good morning.

Q Have you had your deposition taken before?

A I have, yes.

Q Was that in the Apple litigation?

A That was, yes, in the Apple litigation.

Q Any others?

A None that memory serves.

Q I've handed you your LinkedIn profile. I want to use it to talk to you a bit about your background.

You worked at Arm for 12 years; is

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referring to?
A The lead verification engineer at Nuvia at that time was Nitin Sharma.
Q What was -- did he have a team?
A He did. Many, many people.
Q Were they working on design as well as verification?
A We all were working on design as well as verification. So yeah, likely, yes.
Q And that would include Nitin?
A Nitin Sharma.
Q Was also working on design?
A He was only focused on verification. That was his responsibility.
Q On this Annex 1 that you have in front of you, there is also [redacted] as a deliverable. Do you see that?
A I do.
Q What is [redacted]?
A Within the Arm architecture, they have a -- you see it actually referred to here as [redacted]

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It was -- it's a technology used to attach to a processor for debuggability on that processor. And the checker is if a -- an embedded trace macro is developed, it's a checker to look at the compliance of the output stream from the trace macro, and is it correct or not.
Q Was that trace checker downloaded at Nuvia?
A I'd have to look at the download log.
Q Do you have any information on whether any of those trace checker modules were executed or otherwise utilized at Nuvia?
A I -- I don't know on that particular one. One, if it's downloaded or used.
Q Who would know that?
A That would be, again, the same individual, Nitin Sharma.
Q And then the last component on Annex 1 is [redacted]. Do you see that?
A I do.
Q What is the [redacted]
A It's Arm's -- there are a variety of instructions in the Arm architecture that are

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used in cryptographic algorithms -- to help develop cryptographic algorithms, but they're instructions. And these are the documents associated with those instructions.
Q How were those documents used at Nuvia?
A They would have been used as a reference to understand the -- those particular instructions; they would have been -- the engineers would have basically just read that documentation to understand the instruction and the behavior of those instructions.
Q What work was done to implement those instructions at Nuvia?
A That -- is there an aspect of the design you want to focus on?
Q Well, so far, you've said that they would have read it to understand the instruction and the behavior of those instructions.
Did any -- let me ask it this way:
Was any work done after that reading at Nuvia?
A The processor designers would have -- to implement the behavior, they had to have an understanding of those instructions. They would have written -- earlier, I talked about the

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language, Verilog. They would have written behavior in the Verilog. And then the verification team would have looked at the same instructions and their expected behavior to understand how to validate those instructions.
Q The [redacted], was that downloaded after the execution of the ALA?
A I -- again, I'd have to look at the download logs to see if and when they were downloaded.
Q Do you have an understanding of whether it's available publicly?
A There are in the public domain -- at this point in time, at this moment in time today, the entirety of Arm v8 is -- meaning v8.0 through v8.7, and all its components are available in the public domain as non-confidential material today.
Q At the time of Nuvia's work on the architecture crypto extension, what was the status of that documentation?
A I'd have to -- because there's so many elements, I'd have to go look at the architecture elements to see where these particular instructions fall.

DEPOSITION ERRATA SHEET

Our Assignment No. J10401726
Case Caption: ARM LTD.
vs. QUALCOMM INC.

DECLARATION UNDER PENALTY OF PERJURY

I declare under penalty of perjury that I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me, and the same is true and accurate, save and except for changes and/or corrections, if any, as indicated by me on the DEPOSITION ERRATA SHEET hereof, with the understanding that I offer these changes as if still under oath.

Signed on the _____ day of _____, 2023.

_____
GERARD WILLIAMS, III

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GERARD WILLIAMS, III

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GERARD WILLIAMS, III